

# New records of Agromyzidae (Diptera) from Switzerland and an updated checklist

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## Abstract

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Here, we investigate about 5500 previously unidentified specimens from the collection of Gerhard Bächli. A total of 108 agromyzid species were added to the fauna of Switzerland. Consequently, the species richness of the Swiss agromyzids was increased to 395 species. The checklist of Agromyzidae of Switzerland was updated, and the complete list presented in appendix.

## Key Words

Agromyzidae

Diptera

new record

distribution

host plants

Switzerland

checklist

## Introduction

The acalyptrate Diptera family Agromyzidae (leaf miner flies) is economically important because a rather large number of its species are known to damage crop plants (Spencer 1973). It is one of the largest families in the Order Diptera, containing more than 930 species in Europe and more than 3050 worldwide. However, according to the Swiss Diptera checklist (Martinez 1998) and the three supplements (Merz et al. 2001, 2006; Bächli et al. 2014), only 280 species are listed for Switzerland. This number is obviously rather low and even as much as 20 years ago Martinez (1998), who listed only 140 species, stated that the Swiss fauna was poorly known. Since then, Černý (2005a, 2009, 2013) and Černý and Merz (2005, 2006,

2007, 2012) have improved the situation by studying additional collections.

One of the reasons why agromyzid flies are poorly studied is that in most cases, only males can be identified based on the basis of very laborious preparations of terminalia. In addition, many species have been named solely on the plant species from which they emerged. Many more species lack even this information because they were described on the basis of specimens collected by standard methods, e.g. netting. For most of these species, their ecology and life history remain unknown.

By studying several thousand specimens of the private collection of G. Bächli, we here aim to improve our knowledge on the local agromyzid fauna. Although this significantly enhances our understanding of the Swiss



Agromyzidae, we feel that much more work needs to be done in order to reach a tenable or even tolerable standard of knowledge.

## Material and methods

This study is based on about 5500 specimens (mostly male), of more than 300 species, deposited in the collection of GB. Some duplicates are in the private collection of MČ. Most of the specimens were caught by net sweeping from vegetation and from flowers. Some specimens were accidentally found around *Drosophila* banana baits, in canopy beer-wine traps, etc. In such cases, it is unlikely that they were attracted by the bait, but simply represent by-catch. All material was stored at first in alcohol and pinned and dried afterwards. All specimens were collected by GB if not otherwise stated.

Species identification in this group of flies is based almost completely on male genital structures and therefore, females are not taken into account here. In several specimens, it was possible to identify the diagnostic structures of the postabdomen without any preparation. When necessary, male terminalia were studied after detaching them, then softening and macerating the terminalia in hot 10% KOH, washing in water and dissecting the whole abdomen in a droplet of glycerine under a binocular microscope MBS 10-100. After examination, all the parts dis-

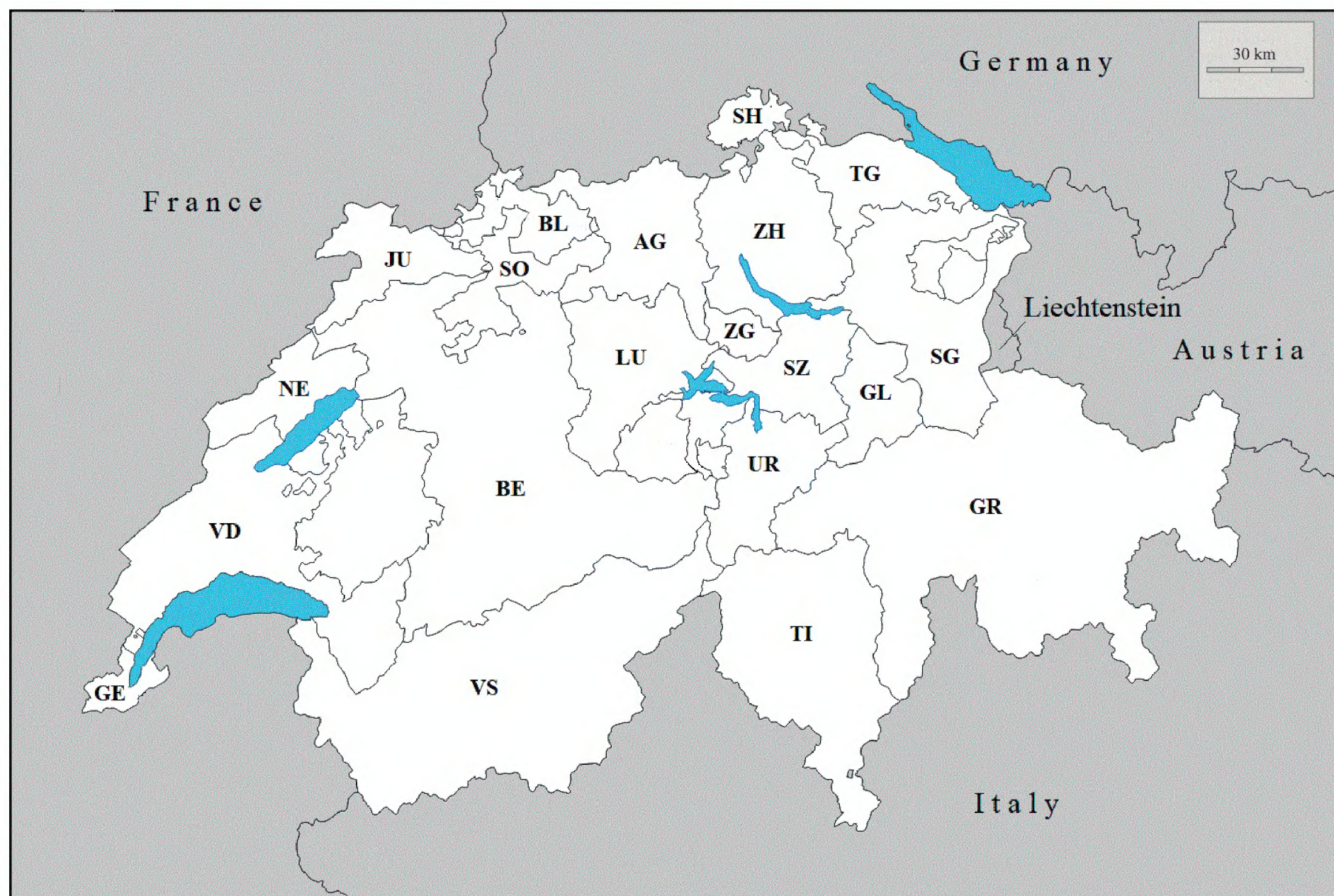
sected were placed in a droplet of the medium “glycerin plus gum resin” on a piece of card pinned below the relevant specimen. Some collection details not mentioned on the labels were added in square brackets ([ ]). All the material examined was identified by MČ. The identifications were based on Černý (1992, 2007a,b), Griffiths (1963, 1967, 1972a,b, 1973, 1974, 1976a,b, 1977, 1980), Hendel (1920, 1924, 1931–36), Hering (1925, 1926, 1927, 1928, 1931, 1932), Papp and Černý (2015, 2016, 2017), and Spencer (1964, 1966a,b, 1969, 1972, 1976, 1977, 1990).

The nomenclature used for the Agromyzidae was based on Fauna Europaea (Martinez 2013) and Papp and Černý (2015, 2016, 2017). The host plants were treated according to Spencer (1973, 1990) and Benavent-Corai et al. (2005).

Genera and species were arranged alphabetically in the two subfamilies Agromyzinae and Phytomyzinae.

For host plants, names of genera are given when, as far as known, all respective species were found to be involved. Mentioning early stages may refer to eggs, larvae or puparia.

The localities were grouped according to cantons (districts) of Switzerland (Fig. 1) and the following abbreviations used: **AG** = Aargau; **BE** = Bern; **BL** = Basel-Landschaft; **GE** = Genève; **GL** = Glarus; **GR** = Graubünden; **JU** = Jura; **LU** = Luzern; **NE** = Neuchâtel; **SH** = Schaffhausen; **SO** = Solothurn; **SZ** = Schwyz; **TG** = Thurgau; **TI** = Ticino; **UR** = Uri; **VD** = Vaud; **VS** = Valais; **ZG** = Zug; **ZH** = Zürich.



**Figure 1.** Map showing all the cantons in Switzerland sampled.



## List of species

### Subfamily Agromyzinae

#### *Agromyza albitarsis* Meigen, 1830

**Material examined.** AG: Würenlingen [47°32'N, 8°16'E, 420m a.s.l., banana bait], 1 ♂, 6.–11.vi.1973.

**Distribution.** Europe: Albania, Austria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Greece (Černý 2011), Hungary (Papp and Černý 2015), Italy, Lithuania, Netherlands, Norway, Poland, Slovakia, Sweden; Asia: Japan, Turkey. First record from Switzerland.

**Biology.** Host plants *Populus*, *Salix*.

#### *Agromyza anderssoni* Spencer, 1976

**Material examined.** TI: Biasca [46°21'N, 8°58'E, 300m a.s.l., banana bait], 1 ♂, 16.–20.vi.1995; Bolle di Magadino [46°09'N, 8°52'E, 200m a.s.l., tent trap], 1 ♂, 17.–20.vi.1995, B. Merz & G. Bächli leg.

**Distribution.** Europe: Czech Republic, Estonia, Hungary, Slovakia, Sweden; Asia: South Korea, Turkey (Papp and Černý 2015). First record from Switzerland.

**Biology.** Host plant unknown.

#### *Agromyza conjuncta* Spencer, 1966

**Material examined.** GR: Scuol [46°48'N, 10°18'E, 1200m a.s.l., banana bait], 1 ♂, 9.–12.viii.1978; Zernez-Gondas [46°42'N, 10°06'E, 1500m a.s.l., banana bait], 1 ♂, 4.–7.viii.1996, B. Merz & G. Bächli leg. VS: Baltschieder [46°18'N, 7°52'E, 650m a.s.l.], 1 ♂, 17.vi.1996, B. Merz & G. Bächli leg.; Riederalp [46°23'N, 8°02'E, 2050m a.s.l., banana bait], 1 ♂, 31.vii.–8.viii.1976. ZH: Hönggerberg [47°25'N, 8°30'E, 520m a.s.l., banana bait], 1 ♂, 3.–7.vii.1998.

**Distribution.** Europe: Belgium, Czech Republic, France, Germany, Great Britain, Greece incl. Crete, Hungary, Italy incl. Sicily, Poland, Portugal (Černý et al. 2018), Serbia, Slovakia, Spain, Sweden (Papp and Černý 2015). First record from Switzerland.

**Biology.** Host plant unknown.

#### *Agromyza drepanura* (Mamonov, 1929)

**Material examined.** AG: Würenlingen, Bärengraben [47°31'N, 8°15'E, 420m a.s.l.], 1 ♂, 13.v.1998. GR: S-chanf-Flin [46°36'N, 9°59'E, 1650m a.s.l.], 1 ♂, 7.viii.1996, B. Merz & G. Bächli leg.; Zuoz-Nüd [46°36'N, 9°58'E, 1700m a.s.l.], 1 ♂, 7.viii.1996, B. Merz & G. Bächli leg.

**Distribution.** Europe: Czech Republic, France, Germany, Hungary, Russia, Ukraine; Asia: Armenia, Kazakhstan, Kyrgyzstan, Uzbekistan (Nartshuk and von Tschirnhaus 2017, Papp and Černý 2015). First record from Switzerland.

**Biology.** Host plant *Medicago sativa*.

#### *Agromyza filipendulae* Spencer, 1976

**Material examined.** AG: Rheinfelden [47°33'N, 7°48'E, 270m a.s.l.], 1 ♂, 12.vi.2010. GE: Jussy, Prés de Villette, 475m a.s.l., [46°14'N, 6°16'E], 1 ♂, 8.viii.2000, B. Merz & G. Bächli leg. LU: Luzern [47°01'N, 8°19'E, 440m a.s.l.], 1 ♂, 10.vi.2006.

**Distribution.** Europe: Czech Republic, Germany, Great Britain, France, Hungary, Ireland, Latvia, Lithuania, Montenegro, Poland, Norway; Asia: Asian Russia (Nartshuk and von Tschirnhaus 2017, Papp and Černý 2015). First record from Switzerland.

**Biology.** Host plants *Filipendula*, *Potentilla*, *Rubus*, *Sanguisorba*.

#### *Agromyza longiphallus* L. Papp in Papp & Černý, 2015

**Material examined.** GR: Zernež [46°42'N, 10°05'E, 1450m a.s.l., banana bait], 2 ♂♂, 15.–18.viii.1978. VS: Riederalp [46°23'N, 8°02'E, 2050m a.s.l., banana bait], 3 ♂♂, 31.vii.–8.viii.1976.

**Distribution.** Europe: Slovakia. First record from Switzerland.

**Biology.** Host plant unknown.

#### *Agromyza seticercus* L. Papp in Papp & Černý, 2015

**Material examined.** GE: Chancy [46°09'N, 5°58'E, 350m a.s.l.], 2 ♂♂, 25.vii.2004.

**Distribution.** Europe: Hungary. First record from Switzerland.

**Biology.** Host plant unknown.

#### *Agromyza spenceri* Griffiths, 1963

**Material examined.** VS: Grône, Poutafontana, 500m a.s.l., [46°15'N, 7°27'E], 1 ♂, 1.vii.2001; Pfynwald [46°38'N, 7°37'E, 600m a.s.l., canopy trap], 1 ♂, 2.–6.viii.1999.

**Distribution.** Europe: Bulgaria, Czech Republic, France, Hungary, Italy, Lithuania, Poland, Portugal (Černý et al. 2018), Republic of Malta, Spain; Africa: Morocco; Asia: Turkey, Uzbekistan (Černý 2013, Papp and Černý 2015). First record from Switzerland.

**Biology.** Host plant *Phragmites australis*.



***Agromyza woerzi* Groschke & Hering, 1957**

**Material examined.** GR: Santa Maria, Müstair, 1850m a.s.l., [46°36'N, 10°25'E], 1 ♂, 23.vi.2017.

**Distribution.** Europe: Belarus, Czech Republic, Germany, Latvia, Lithuania, Norway, Poland, Slovakia; Asia: Turkey (Dursun *et al.* 2015, Papp and Černý 2015). First record from Switzerland.

**Biology.** Host plants *Knautia arvensis*, *K. drymeia*.

***Hexomyza cecidogena* (Hering, 1927)**

**Material examined.** TI: Biasca [46°21'N, 8°58'E, 300m a.s.l., banana bait], 3 ♂♂, 16.–20.vi.1995, B. Merz & G. Bächli leg.

**Distribution.** Europe: Austria, Belgium, Czech Republic, Denmark, France, Germany, Hungary, Italy, Lithuania, Poland, Portugal (Černý *et al.* 2018), Slovakia, Ukraine; Asia: China, Japan (Papp and Černý 2015). First record from Switzerland.

**Biology.** Host plants *Salix aurita*, *S. repens*.

***Melanagromyza arnicarum* Hering, 1942**

**Material examined.** GR: Dischmatal [46°45'N, 9°54'E, 1600m a.s.l.], 1 ♂, 16.–30.vi.1990, 1 ♂, 22.v.1991, P. Brodmann leg.

**Distribution.** Europe: Denmark, Germany, Italy, Lithuania; Asia: China. First record from Switzerland.

**Biology.** Host plant *Arnica montana*.

***Melanagromyza eriolepidis* Spencer, 1961**

**Material examined.** GR: Tschier, 1700m a.s.l., [46°38'N, 10°20'E], 1 ♂, 27.vi.2015.

**Distribution.** Europe: Germany, Great Britain. First record from Switzerland.

**Biology.** Host plant *Cirsium eriophorum*.

***Melanagromyza eupatorii* Spencer, 1957**

**Material examined.** GE, Chancy [46°09'N, 5°58'E, 350m a.s.l.], 1 ♂, 25.vii.2004. NE: St. Blaise, Les Rièdes [47°01'N, 6°59'E, 440m a.s.l.], 1 ♂, 19.v.2001. VS: Visp [46°18'N, 7°53'E, 650m a.s.l.], 1 ♂, 2001, P. Duelli leg.

**Distribution.** Europe: Czech Republic, France, Germany, Great Britain, Hungary, Lithuania, Montenegro, Poland, Slovakia, Spain (Papp and Černý 2015). First record from Switzerland.

**Biology.** Host plants *Eupatorium*, *Senecio*, *Inula*, *Chrysanthemum*.

***Melanagromyza nibletti* Spencer, 1957**

**Material examined.** LU: Luzern [47°01'N, 8°19'E, 440m a.s.l.], 1 ♂, 10.vi.2006.

**Distribution.** Europe: Czech Republic, Great Britain, Spain (Papp and Černý 2015). First record from Switzerland.

**Biology.** Host plant *Silaum silaus*.

***Melanagromyza pubescens* Hendel, 1923**

**Material examined.** GE: Chancy [46°09'N, 5°58'E, 350m a.s.l.], 1 ♂, 25.vii.2004. TI: Biasca [46°21'N, 8°58'E, 300m a.s.l.], 1 ♂, 17.vi.1995, B. Merz & G. Bächli leg. VS: Grône, Poutafontana, 500m a.s.l., [46°15'N, 7°27'E], 1 ♂, 1.vii.2001; Leuk-Platten [46°19'N, 7°42'E, 600m a.s.l.], 2 ♂♂, 1.viii.1998, 1 ♂, 3.viii.1998, 1 ♂, 19.v.1996, B. Merz & G. Bächli leg.; Pfynwald [46°38'N, 7°37'E, 600m a.s.l., canopy trap], 1 ♂, 2.–6.viii.1999, B. Merz & G. Bächli leg.

**Distribution.** Europe: Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, Germany, Great Britain, Greece, Hungary, Italy, Lithuania, Poland, Portugal (Černý *et al.* 2018), Romania, Russia, Spain, Sweden, Ukraine; Asia: Asian Russia, China, Japan, Mongolia, Nepal, North Korea, Kuril Islands, Turkey (Papp and Černý 2015). First record from Switzerland.

**Biology.** Host plant *Artemisia vulgaris*.

***Melanagromyza sativae* Spencer, 1957**

**Material examined.** GE: Dardagny, 400m a.s.l., [46°12'N, 6°00'E], 1 ♂, 11.viii.2000, B. Merz & G. Bächli leg. GR: Santa Maria [Müstair], 1850m a.s.l., [46°36'N, 10°25'E], 2 ♂♂, 26.vi.2015; Sur, 1600m a.s.l., [46°31'N, 9°38'E], 3 ♂♂, 3.vi.2000; Tschlin, 1500m a.s.l., [46°52'N, 10°26'E], 1 ♂, 25.vi.2016. VS: Baltschieder [46°18'N, 7°52'E, 650m a.s.l.], 1 ♂, 17.vi.1996; Pfynwald [46°38'N, 7°37'E, 600m a.s.l.], 1 ♂, 15.v.1996, B. Merz & G. Bächli leg.

**Distribution.** Europe: Czech Republic, Germany, Great Britain, Greece, Hungary, Lithuania, Slovakia; Asia: Cyprus, Iran, Turkey (Papp and Černý 2015). First record from Switzerland.

**Biology.** Host plants *Angelica*, *Anthriscus*, *Pastinaca*, *Pimpinella*, *Torilis*.

***Melanagromyza tripolii* Spencer, 1957**

**Material examined.** VS: Baltschieder [46°18'N, 7°52'E, 650m a.s.l.], 1 ♂, 17.v.1996, B. Merz & G. Bächli leg., 1



♂, 24.vi.2000; Pfynwald [46°38'N, 7°37'E, 600m a.s.l.], 1 ♂, 19.vi.1996, B. Merz & G. Bächli leg.

**Distribution.** Europe: Czech Republic, Denmark, France, Germany, Great Britain, Hungary, Italy, Netherlands, Slovakia, Spain, Ukraine; Asia: Turkey (Papp and Černý 2015). First record from Switzerland.

**Biology.** Host plant *Aster tripolium*.

#### *Melanagromyza zlobini* Pakalniškis, 1996

**Material examined.** GR: Santa Maria [Müstair], 1850m a.s.l., [46°36'N, 10°25'E], 3 ♂♂, 26.vi.2015; Sur, 1550m a.s.l., [46°31'N, 9°38'E], 1 ♂, 3.vi.2000.

**Distribution.** Europe: Czech Republic, Germany, Greece, Hungary, Lithuania (Papp and Černý 2015). First record from Switzerland.

**Biology.** Host plant unknown.

#### *Ophiomyia alliariae* Hering, 1954

**Material examined.** AG: Würenlingen [47°32'N, 8°16'E, 420m a.s.l.], 1 ♂, 27.vii.2001. GR: Rothenbrunnen [46°46'N, 9°26'E, 630m a.s.l.], 1 ♂, 8.viii.1996, B. Merz & G. Bächli leg. VS: Visp [46°18'N, 7°53'E, 650m a.s.l.], 1 ♂, 2000, P. Duelli leg.

**Distribution.** Europe: Andorra, Austria, Czech Republic, France, Germany, Great Britain, Greece, Hungary, Italy incl. Sardinia, Latvia, Lithuania, Portugal (Černý et al. 2018), Republic of Malta, Slovakia, Spain, Ukraine (Papp and Černý 2015). First record from Switzerland.

**Biology.** Host plants *Alliaria*, *Bertorea*, *Brassica*, *Capsella*, *Cardamine*, *Erysimum*, *Raphanus*, *Sinapis*, *Sisymbrium*.

#### *Ophiomyia eucodonus* Hering, 1960

**Material examined.** GR: Nationalpark [46°40'N, 10°12'E, 2000m a.s.l.], 1 ♂, 2005, P. Duelli leg. VS: Jeizinen [46°20'N, 7°44'E, 1500m a.s.l.], 1 ♂, 26.vi.1999; Visperterminen [46°15'N, 7°54'E, 1500m a.s.l.], 1 ♂, 21.vii.2004.

**Distribution.** Europe: Czech Republic, France, Germany, Hungary, Poland, Russia, Slovakia, Spain (Papp and Černý 2015). First record from Switzerland.

**Biology.** Host plants *Campanula* spp.

#### *Ophiomyia hungarica* Černý in Papp & Černý, 2015

**Material examined.** VS: Baltschieder [46°15'N, 7°54'E, 650m a.s.l.], 1 ♂, 17.vi.1996, B. Merz & G. Bächli leg;

Visperterminen, 1400m a.s.l., [46°15'N, 7°54'E], 1 ♂, 31.vii.1998, B. Merz & G. Bächli leg.

**Distribution.** Europe: Hungary. First record from Switzerland.

**Biology.** Host plant unknown.

#### *Ophiomyia maura* (Meigen, 1838)

**Material examined.** AG: Würenlingen [47°32'N, 8°16'E, 420m a.s.l.], 1 ♂, 6.vii.2000. VS: Pfynwald [46°38'N, 7°37'E, 600m a.s.l.], 1 ♂, 19.v.1996, B. Merz & G. Bächli leg.

**Distribution.** North America: Canada; Europe: Andorra, Austria, Belarus, Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, Italy incl. Sicily, Latvia, Lithuania, Netherlands, Norway, Poland, Russia, Slovakia, Spain incl. Canary Islands, Sweden, Ukraine, former Yugoslavia; Asia: China, Japan, Oman, Turkey, Yemen (Papp and Černý 2015). First record from Switzerland.

**Biology.** Host plants *Aster*, *Erigeron*, *Solidago*.

#### *Ophiomyia mohelensis* Černý, 1994

**Material examined.** GR: Nationalpark [46°40'N, 10°12'E, 2000m a.s.l.], 1 ♂, 2004, P. Duelli leg.

**Distribution.** Europe: Czech Republic, Hungary, Ukraine (Papp and Černý 2015). First record from Switzerland.

**Biology.** Host plant unknown.

#### *Ophiomyia pannonica* Černý in Papp & Černý 2015

**Material examined.** AG: Würenlingen [47°32'N, 8°16'E, 420m a.s.l.], 3 ♂♂, 6.–11.vi.1973 [banana bait], 3 ♂♂, 14.viii.1997, 1 ♂, 31.viii.1999. TI: Cardada, Alpe, 1500m a.s.l., [46°12'N, 8°48'E], 1 ♂, 23.viii.2013. ZH: Flaach [47°35'N, 8°37'E, 350m a.s.l.], 1 ♂, 7.viii.2001.

**Distribution.** Europe: Hungary, Slovakia. First record from Switzerland.

**Biology.** Host plant unknown.

#### *Ophiomyia rostrata* (Hendel, 1920)

**Material examined.** VS: Leuk-Rotafen [46°19'N, 7°41'E, 850m a.s.l.], 1 ♂, 16.v.1996, B. Merz & G. Bächli leg.

**Distribution.** Europe: Austria, Bulgaria, Czech Republic, France, Germany, Great Britain, Hungary, Lithuania,



Netherlands, Poland, Spain; Asia: Uzbekistan (Papp and Černý 2015). First record from Switzerland.

**Biology.** Host plant *Convolvulus arvensis*.

***Ophiomyia vanyushai* Guglya, 2014**

**Material examined.** GR: Zernez [46°42'N, 10°05'E, 1450m a.s.l.], 1 ♂, 6.viii.1996, B. Merz & G. Bächli leg.

**Distribution.** Europe: Ukraine. First record from Switzerland.

**Biology.** Host plant unknown.

**Subfamily Phytomyzinae**

***Amauromyza (Cephalomyza) karli* (Hendel, 1927)**

**Material examined.** VS: Baltschieder [46°18'N, 7°52'E, 650m a.s.l.], 1 ♂, 2.viii.1998, B. Merz & G. Bächli leg.; Pfynwald [46°38'N, 7°37'E, 600m a.s.l., canopy trap], 1 ♂, 3.–6.viii.1999.

**Distribution.** North America: Canada; Europe: Czech Republic, Finland, France, Germany, Greece, Hungary, Poland, Romania, Spain, Sweden; Asia: Mongolia (Papp and Černý 2016). First record from Switzerland.

**Biology.** Host plant unknown.

***Amauromyza (Cephalomyza) luteiceps* (Hendel, 1920)**

**Material examined.** GE: Cartigny, Moulin de Vert, 350m a.s.l., [46°11'N, 6°01'E], 1 ♂, 6.viii.2000, B. Merz & G. Bächli leg.

**Distribution.** North America: Canada; Europe: Belgium, Czech Republic, Great Britain, Denmark, Finland, France, Germany, Greece, Lithuania, Netherlands, Poland, Portugal (Černý et al. 2018), Republic of Malta, Spain, Sweden, Norway; Asia: Iran, Turkey (Papp and Černý 2016, Ranji et al. 2015). First record from Switzerland.

**Biology.** Host plant *Atriplex calotheca*.

***Cerodontha (Butomomyza) caricivora* (Groschke, 1954)**

**Material examined.** AG: Würenlingen [47°32'N, 8°16'E, 420m a.s.l., banana bait], 2 ♂♂, 6.–11.vi.1973. VS: Morgins, Vieze [46°14'N, 6°51'E, 1400m a.s.l.], 1 ♂, 27.vii.2004.

**Distribution.** Europe: Austria, Belgium, Denmark, Estonia, Finland, Germany, Hungary, Poland, Slovakia, Sweden; Asia: Japan (Papp and Černý 2016). First record from Switzerland.

**Biology.** Host plants *Carex* spp.

***Cerodontha (Butomomyza) falcata* Černý in Papp & Černý, 2016**

**Material examined.** TI: Biasca [46°21'N, 8°58'E, 300m a.s.l.], 1 ♂, 17.vi.1995. ZH: Marthalen [47°38'N, 8°39'E, 370m a.s.l.], 2 ♂♂, 8.vi.2008, B. Merz & G. Bächli leg.

**Distribution.** Europe: Czech Republic, Hungary. First record from Switzerland.

**Biology.** Host plant unknown.

***Cerodontha (Butomomyza) mellita* Spencer, 1971**

**Material examined.** SZ: Alpthal [47°04'N, 8°43'E, 1150m a.s.l.], 1 ♂, 2001, P. Duelli leg.

**Distribution.** Europe: Belgium, Czech Republic, Great Britain, Poland, Portugal (Černý et al. 2018), Slovakia (Papp and Černý 2016). First record from Switzerland.

**Biology.** Host plants *Carex* spp.

***Cerodontha (Butomomyza) pseuderrans* (Hendel, 1931)**

**Material examined.** AG: Rottenschwil [47°19'N, 8°22'E, 390m a.s.l.], 1 ♂, 14.vi.2008; Wohlen [47°21'N, 8°18'E, 450m a.s.l.], 1 ♂, 21.v.2011. GE: Dardagny, Es-sertines, 400m a.s.l., [46°12'N, 6°00'E], 1 ♂, 11.viii.2000; Jussy, Prés de Villette, 475m a.s.l., [46°14'N, 6°16'E], 1 ♂, 8.viii.2000, all B. Merz & G. Bächli leg. LU: Luzern [47°01'N, 8°19'E, 440m a.s.l.], 1 ♂, 10.vi.2006. ZH: Sihlwald [47°16'N, 8°33'E, 550m a.s.l.], 2 ♂♂, 16.viii.1997.

**Distribution.** Europe: Andorra, Austria, Czech Republic, Denmark, Germany, Great Britain, Greece, Hungary, Italy, Lithuania, Poland, Sweden; Asia: Turkey, Japan (Papp and Černý 2016). First record from Switzerland.

**Biology.** Host plant *Carex hirta*.

***Cerodontha (Cerodontha) alpestris* Martinez, 1987**

**Material examined.** GR: Santa Maria [Müstair], 1850 m a.s.l., [46°36'N, 10°25'E], 1 ♂, 26.vi.2015; S-chanf-Flin [46°36'N, 9°59'E, 1650 m a.s.l.], 1 ♂, 7.viii.1996, B. Merz & G. Bächli leg.; Zernez-Gondas [46°42'N, 10°06'E, 1500 m a.s.l.], 1 ♂, 4.–8.viii.1996, B. Merz & G. Bächli leg.

**Distribution.** Europe: France, Germany, Italy (Černý 2013). First record from Switzerland.

**Biology.** Host plant unknown.

***Cerodontha (Cerodontha) coxalis* Martinez, 1987**

**Material examined.** GR: Santa Maria [46°36'N, 10°25'E, Müstair], 1850m a.s.l., 2 ♂♂, 26.vi.2015. ZH:



Dietikon [47°24'N, 8°24'E, 390m a.s.l., banana bait] 1 ♂, 16.–20.vii.1992.

**Distribution.** Europe: Czech Republic, France, Hungary, Romania (Papp and Černý 2016). First record from Switzerland.

**Biology.** Host plant unknown.

***Cerodontha (Cerodontha) phragmitophila* Hering, 1935**

**Material examined.** LU: Luzern [47°01'N, 08°19'E, 440m a.s.l.], 1 ♂, 10.vi.2006. VS: Grône, Poutafontana [46°15'N, 07°27'E, 520m a.s.l.], 1 ♂, 18.v.1996, B. Merz & G. Bächli leg.

**Distribution.** Europe: Belgium, Bulgaria, Croatia, Czech Republic, France incl. Corsica, Great Britain, Greece, Hungary, Italy, Poland, Portugal (Černý et al. 2018), Spain incl. Canary Islands, former Yugoslavia; Africa: Egypt; Asia: Cyprus, Israel, Kazakhstan, Pakistan, Uzbekistan (Papp and Černý 2016). First record from Switzerland.

**Biology.** Host plants *Arundo*, *Phragmites*.

***Cerodontha (Dizygomyza) brisiaca* Nowakowski, 1973**

**Material examined.** GL: Elm, Wichlen, 1300m a.s.l., [46°55'N, 9°10'E], 1 ♂, 15.viii.2001. GR: Marmorera, 1600m a.s.l., [46°31'N, 9°38'E], 1 ♂, 2.vi.2000; Santa Maria, Müstair, 1850m a.s.l., [46°36'N, 10°25'E], 1 ♂, 23.vi.2017; Sur, 1600m a.s.l., [46°31'N, 9°38'E], 1 ♂, 2.vi.2000; Tinizong, 1350m a.s.l., [46°35'N, 9°37'E], 1 ♂, 4.viii.2007. TG: Lommis, Immenberg [47°32'N, 8°59'E, 700m a.s.l.], 1 ♂, 4.viii.2007. TI: Acquacalda [46°33'N, 8°49'E, 1750m a.s.l.], 2 ♂♂, 22.–24.vi.2001.

**Distribution.** Europe: Austria, Czech Republic, Germany, Lithuania, Poland; Africa: Morocco (Papp and Černý 2016). First record from Switzerland.

**Biology.** Host plant unknown.

***Cerodontha (Dizygomyza) chaixiana* (Hering, 1956)**

**Material examined.** AG: Würenlingen [47°32'N, 8°16'E, 420m a.s.l., banana bait], 6 ♂♂, 6.–11.vi.1973. GR: Nationalpark [46°40'N, 10°12'E, 2000m a.s.l.], 1 ♂, 2004, P. Duelli leg.; Tschlin, 1600m a.s.l., [46°52'N, 10°26'E], 1 ♂, 24.vi.2016. LU: Luzern [47°01'N, 8°19'E, 440m a.s.l.], 1 ♂, 10.vi.2006. NE: Marin, Les Tertres, [47°28'N, 6°59'E, 450m a.s.l.] 1 ♂, 19.v.2001. TI: Acquacalda [46°33'N, 8°49'E, 1750m a.s.l.], 1 ♂, 17.–20.vii.1998. VS: Grône, Poutafontana [46°15'N, 7°27'E, 520m a.s.l.], 1 ♂, 18.vi.1996, B. Merz & G. Bächli leg. ZH: Dietikon [47°24'N, 8°24'E, 390m a.s.l., banana bait], 1 ♂, 10.–14.viii.1982, 1 ♂, 19.–23.vii.1990, 1 ♂, 16.–20.vii.1992; Hönggerberg [47°25'N,

8°30'E, 520m a.s.l., banana bait], 1 ♂, 2.–6.viii.1997, 1 ♂, 3.–7.vii.1998, 1 ♂, 29.vi.–3.vii.1999, 1 ♂, 3.–7.vii.2000, 1 ♂, 19.vii.2008, 1 ♂, 1.vii.2011; Sihlwald [47°16'N, 8°33'E, 550m a.s.l.], 1 ♂, 16.viii.1997.

**Distribution.** Europe: Czech Republic, Germany, Hungary, Poland (Papp and Černý 2016). First record from Switzerland.

**Biology.** Host plants *Poa* spp.

***Cerodontha (Dizygomyza) hirtae* Nowakowski, 1967**

**Material examined.** LU: Luzern [47°01'N, 8°19'E, 440m a.s.l.], 1 ♂, 10.vi.2006.

**Distribution.** North America: United States; Europe: Austria, Belgium, Czech Republic, Germany, Greece, Hungary, Netherlands, Poland, Slovakia (Papp and Černý 2016). First record from Switzerland.

**Biology.** Host plants *Carex* spp.

***Cerodontha (Dizygomyza) silvatica* (Groschke & Hering, 1957)**

**Material examined.** GR: Dischmatal [46°45'N, 9°54'E, 1600m a.s.l.], 1 ♂, 1.–20.viii.1991, P. Brodmann leg. VS: Riederalp [46°23'N, 8°02'E, 2050m a.s.l., banana bait], 2 ♂♂, 31.vii.–8.viii.1976.

**Distribution.** Europe: Czech Republic, Germany, Great Britain, Hungary, Poland (Papp and Černý 2016). First record from Switzerland.

**Biology.** Host plant *Luzula sylvatica*.

***Cerodontha (Icteromyza) rozkosnyi* Černý, 2007**

**Material examined.** TI: Bolle di Magadino, [46°09'N, 8°52'E, 200m a.s.l.], 1 ♂, 9.viii.1997.

**Distribution.** Europe: Czech Republic, Greece, Hungary, Romania; Africa: Morocco; Asia: Israel, Turkey (Dursun et al. 2015, Papp and Černý 2016). First record from Switzerland.

**Biology.** Host plant unknown.

***Cerodontha (Phytagromyza) flavocingulata* (Strobl, 1909)**

**Material examined.** GR: Santa Maria, Müstair, 1850m a.s.l., [46°36'N, 10°25'E], 1 ♂, 23.vi.2017. VS: Mund, Finnen [1400m a.s.l.], 1 ♂, 21.vi.2014.

**Distribution.** North America: Canada; Europe: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Estonia,



Finland, France, Germany, Great Britain, Hungary, Latvia, Lithuania, Netherland, Norway, Poland, Romania, Slovakia, Sweden, former Yugoslavia; Asia: Asian Russia – Yakutia (Nartshuk and Bagachanova 2010, Papp and Černý 2016). First record from Switzerland.

**Biology.** Host plants *Agropyron*, *Agrostis*, *Alopecurus*, *Arrhenatherum*, *Bromus*, *Calamagrostis*, *Dactylis*, *Festuca*, *Holcus*, *Poa*, *Phleum*.

***Cerodontha (Poemyza) morula (Hendel, 1920)***

**Material examined.** ZH: Dietikon [47°24'N, 8°24'E, 390m a.s.l., banana bait], 1 ♂, 3.–10.viii.1984; Hönggerberg [47°25'N, 8°30'E, 520m a.s.l.], 1 ♂, 19.vii.2008; Marthalen [47°38'N, 8°39'E, 390m a.s.l.], 1 ♂, 8.vi.2008.

**Distribution.** Europe: Austria, Czech Republic, Hungary (Papp and Černý 2016). First record from Switzerland.

**Biology.** Host plant unknown.

***Cerodontha (Poemyza) pygmella (Hendel, 1931)***

**Material examined.** GR: Sur, 1600m a.s.l., [46°31'N, 9°38'E], 1 ♂, 3.vi.2000; Tschier, 1700m a.s.l., [46°38'N, 10°20'E], 1 ♂, 27.vi.2015. TI: Acquacalda [46°33'N, 8°49'E, 1750m a.s.l.], 1 ♂, 22.–24.vi.2001; Fusio [46°26'N, 8°39'E, 1300m a.s.l.], 1 ♂, 26.vii.1997; Robiei [46°27'N, 8°31'E, 1900m a.s.l.], 1 ♂, 4.–5.vii.2008. VS: Grône, Poutafontana, 500m a.s.l., [46°15'N, 7°27'E], 1 ♂, 1.vii.2001. ZH: Dietikon [47°24'N, 8°24'E, 390m a.s.l., banana bait], 1 ♂, 3.–7.vii.1998; Flaach [47°35'N, 8°37'E, 350m a.s.l.], 1 ♂, 22.vii.1996.

**Distribution.** Europe: Czech Republic, Estonia, Denmark, Finland, Germany, Great Britain, Hungary, Lithuania, Norway, Poland, Slovakia, Spain incl. Canary Islands, Sweden; Asia: Iran, Asian Russia – Kamchatka, Kuril Islands (Papp and Černý 2016, Ranji *et al.* 2015). First record from Switzerland.

**Biology.** Host plants *Calamagrostis*, *Festuca*.

***Cerodontha (Poemyza) thunebergi Nowakowski, 1967***

**Material examined.** TG: Weinigen, Ochsenfurt [47°35'N, 8°37'E, 450m a.s.l.], 1 ♂, 29.v.1999. VS: Leuk [46°19'N, 7°38'E, 700m a.s.l., banan bait], 1 ♂, 27.–29.vii.1993; Pfynwald [46°38'N, 7°37'E, 600m a.s.l.], 1 ♂, 2.vi.1999, 580m a.s.l., 1 ♂, 30.vi.–4.vii.2001 [banana bait]. ZH: Flaach [47°35'N, 8°37'E, 350m a.s.l.], 1 ♂, 22.vii.1996; Hönggerberg [47°25'N, 8°30'E, 520m a.s.l., banana bait], 1 ♂, 13.–17.vii.1996.

**Distribution.** Europe: Belarus, Czech Republic, Finland, France, Germany, Hungary, Lithuania, Slovakia;

Asia: Japan (Papp and Černý 2016). First record from Switzerland.

**Biology.** Host plant unknown.

***Chromatomyia beigeriae Griffiths, 1980***

**Material examined.** VS: Oberwald [46°31'N, 8°20'E, 1820m a.s.l., banana bait], 2 ♂♂, 13.–15.viii.1975; Riederalp [46°23'N, 8°02'E, 2050m a.s.l., banana bait], 2 ♂♂, 31.vii.–8.viii.1976.

**Distribution.** Europe: Germany, Italy, Poland, Slovakia (Černý 2005a, 2013). First record from Switzerland.

**Biology.** Host plant *Luzula sylvatica*.

***Chromatomyia glacialis (Griffiths, 1964)***

**Material examined.** TI: Acquacalda [46°33'N, 8°49'E, 1750m a.s.l.], 1 ♂, 22.–24.vi.2001. VS: Jeizinen, 2000m a.s.l., [46°20'N, 7°44'E], 1 ♂, 3.vii.2001.

**Distribution.** Europe: Czech Republic, Great Britain, Poland, Sweden. First record from Switzerland.

**Biology.** Host plant unknown.

***Chromatomyia norwegica (Rydén, 1957)***

**Material examined.** AG: Wohlen [47°21'N, 8°18'E, 450m a.s.l.], 1 ♂, 21.v.2011. GR: Alp Flix [46°32'N, 9°38'E, 1830m a.s.l., banana bait], 2 ♂♂, 4.–8.viii.1975; Zuož-Nüd [46°36'N, 9°58'E, 1700m a.s.l.], 1 ♂, 7.viii.1996, B. Merz & G. Bächli leg. VS: Oberwald [46°31'N, 8°20'E, 1820m a.s.l., banana bait], 2 ♂♂, 13.–15.viii.1975; Riederalp [46°23'N, 8°02'E, 2050m a.s.l., banana bait], 25 ♂♂, 31.vii.–8.viii.1976.

**Distribution.** North America: Canada, United States; Europe: Czech Republic, Finland, Germany, Latvia (Karpa 2008), Lithuania, Norway, Poland, Slovakia, Sweden. First record from Switzerland.

**Biology.** Host plants *Arctagrostis*, *Brachypodium*, *Calamagrostis*, *Cinna*, *Deschampsia*, *Melica*.

***Chromatomyia ochracea (Hendel, 1920)***

**Material examined.** TI: Acquacalda [46°33'N, 8°49'E, 1750m a.s.l.], 1 ♂, 22.–24.vi.2001. VS: Jeizinen, 2000m a.s.l., [46°20'N, 7°44'E], 1 ♂, 3.vii.2001.

**Distribution.** Europe: Austria, Czech Republic (Černý *et al.* 2013), Finland, Germany, Poland, Russia, Sweden. First record from Switzerland.

**Biology.** Host plant unknown.



***Chromatomyia primulae* (Robineau-Desvoidy, 1851)**

**Material examined.** GR: Nationalpark [46°40'N, 10°12'E, 2000m a.s.l.], 1 ♂, 2005, P. Duelli leg.

**Distribution.** Europe: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Ireland, Italy, Lithuania, Montenegro, Netherlands, Norway, Poland, Spain incl. Canary Islands, Sweden; Asia: Japan. First record from Switzerland.

**Biology.** Host plants *Primula* spp.

***Chromatomyia rhaetica* Griffiths, 1980**

**Material examined.** AG: Würenlingen [47°32'N, 8°16'E, 420m a.s.l., banana bait], 5 ♂♂, 6.–11.vi.1973. VS: Oberwald [46°31'N, 8°20'E, 1820m a.s.l., banana bait], 1 ♂, 13.–15.viii.1975.

**Distribution.** Europe: Austria, Czech Republic, Slovakia. First record from Switzerland.

**Biology.** Host plant unknown.

***Chromatomyia spenceriana* Griffiths, 1980**

**Material examined.** VS: Riederalp [46°23'N, 8°02'E, 2050m a.s.l., banana bait], 1 ♂, 31.vii.–8.viii.1976.

**Distribution.** Europe: Czech Republic, Sweden. First record from Switzerland.

**Biology.** Host plant unknown.

***Chromatomyia styriaca* Griffiths, 1980**

**Material examined.** AG: Wettingen [47°27'N, 8°21'E, 420m a.s.l.], 2 ♂♂, 18.vii.1996; Würenlingen [47°32'N, 8°16'E, 420m a.s.l.], 1 ♂, 20.vii.1996, 2 ♂♂, 31.viii.1999; 1 ♂, 27.vii.2001. LU: Luzern [47°01'N, 8°19'E, 440m a.s.l.], 2 ♂♂, 10.vi.2006. ZH: Dietikon [47°24'N, 8°24'E, 390m a.s.l., banana bait], 2 ♂♂, 8.–16.vi.1984; Embrach, Haumühle [47°31'N, 8°36'E, 400m a.s.l.], 3 ♂♂, 9.v.1998; Marthalen [47°38'N, 8°39'E, 390m a.s.l.], 3 ♂♂, 8.vi.2008; Zürichberg [47°24'N, 8°33'E, 600m a.s.l., canopy trap], 1 ♂, 2.–3.vii.1983.

**Distribution.** Europe: Austria, Czech Republic, Germany, Finland, Latvia, Lithuania, Poland, Slovakia, Sweden. First record from Switzerland.

**Biology.** Host plant unknown.

***Chromatomyia succisae* (Hering, 1922)**

**Material examined.** AG: Rottenschwil [47°19'N, 8°22'E, 390m a.s.l.], 1 ♂, 14.vi.2008. VD: Changins [46°24'N,

6°14'E, 430m a.s.l.], 1 ♂, 2000, P. Duelli leg. VS: Pfynwald [46°38'N, 7°37'E, 600m a.s.l., canopy trap], 1 ♂, 2.–6.viii.1999.

**Distribution.** Europe: Andorra, Denmark, France, Germany, Great Britain, Ireland, Italy, Lithuania, Netherlands, Poland, Sweden; Asia: Cyprus, Israel, Turkey, Uzbekistan (Černý 2007b, 2009, Černý and Merz 2006, Zlobin 2005). First record from Switzerland.

**Biology.** Host plants *Dipsacus*, *Knautia*, *Succisa*.

***Chromatomyia tschirnhausi* Griffiths, 1980**

**Material examined.** GL: Klönthal [47°01'N, 8°57'E, 850m a.s.l., banana bait], 1 ♂, 11.–14.ix.1974. GR: Dischmatal [46°45'N, 9°54'E, 1600m a.s.l.], Net, 2 ♂♂, 16.–30.vi.1990, 1 ♂, 16.–31.vii.1991, 1 ♂, 1.–20.viii.1991, all P. Brodmann leg. UR: Furkapass, ALPFOR area, [46°35'N, 8°25'E, 2500m a.s.l.], 3 ♂♂, 25.vii.2012.

**Distribution.** Europe: Austria, Czech Republic, Poland, Norway, Slovakia (Černý *et al.* 2009, Černý and Farkač 2004). First record from Switzerland.

**Biology.** Host plant unknown.

***Liriomyza aculeolata* Zlobin, 2003**

**Material examined.** GR: Santa Maria, Müstair, 1850m a.s.l., [46°36'N, 10°25'E], 1 ♂, 23.vi.2017. VS: Jeizinen [46°20'N, 7°44'E, 1250m a.s.l.], 1 ♂, 26.vi.1999.

**Distribution.** Europe: Hungary, Russia, Spain, Sweden, Ukraine (Papp and Černý 2017, Zlobin 2005). First record from Switzerland.

**Biology.** Host plant unknown.

***Liriomyza amoena* (Meigen, 1830)**

**Material examined.** SO: Messen [47°06'N, 7°27'E, 510m a.s.l.], 1 ♂, 15.iii.2004, B. Wermelinger leg.

**Distribution.** Europe: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Greece, Ireland, Italy, Latvia, Lithuania, Madeira Islands, Moldavia, Netherlands, Poland, Romania, Slovakia, Spain, Sweden; Asia: Turkey, Japan, India (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plants *Sambucus* spp.

***Liriomyza buhri* Hering, 1937**

**Material examined.** GR: Dischmatal [46°45'N, 9°54'E, 1600m a.s.l.], 1 ♂, 22.v.1991, 1 ♂, 16.–31.vii.1991, P.



Brodmann leg. **TI**: Cardada, Gimetta, 1700m a.s.l., [46°12'N, 8°48'E], 1 ♂, 24.viii.2013; Robiei [46°27'N, 8°31'E, 1900m a.s.l.], 2 ♂♂, 4.–5.vii.2008; Val Bavona [46°24'N, 8°34'E, 600m a.s.l.], 1 ♂, 27.vii.1997. **UR**: Furkapass, ALPFOR Area, [46°35'N, 8°25'E, 2500m a.s.l.], 1 ♂, 25.vii.2012. **VS**: Jeizinen, 2000m a.s.l., [46°20'N, 7°44'E], 1 ♂, 3.vii.2001; Morgins, Porte de Culet [46°13'N, 6°52'E, 1700m a.s.l.], 3 ♂♂, 28.vii.2004; Pfynwald [46°38'N, 7°37'E, 600m a.s.l.], 1 ♂, 15.v.1996, B. Merz & G. Bächli leg. **ZH**: Marthalen [47°38'N, 8°39'E, 390m a.s.l.], 2 ♂♂, 8.vi.2008.

**Distribution.** Europe: Czech Republic, Denmark, Estonia, Finland, France, Germany, Lithuania, Montenegro, Norway, Poland, Slovakia, Sweden; Asia: Asian Russia – Yakutia, Turkey (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plants *Campanula*, *Jasione*, *Phyteuma*.

### *Liriomyza centaureae* Hering, 1927

**Material examined.** **SH**: Merishausen [47°46'N, 8°37'E, 540m a.s.l.], 1 ♂, 9.viii.1999. **SZ**: Biberbrugg [47°09'N, 8°43'E, 860m a.s.l.], 1 ♂, 25.vi.2011.

**Distribution.** Europe: Croatia, Czech Republic, Denmark, Estonia, France, Germany, Great Britain, Hungary, Italy, Latvia, Lithuania, Poland, Slovakia, Spain, Sweden; Asia: Asian Russia – Yakutia, Turkey (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plants *Centaurea* spp.

### *Liriomyza dendranthema* Nowakowski, 1975

**Material examined.** **GR**: Davos [46°48'N, 9°50'E, 2550m a.s.l.], 1 ♂, 2000, 1 ♂, 2001, 1 ♂, 2004, 2 ♂♂, 2006, all P. Duelli leg. **VS**: Zeneggen [46°16'N, 7°52'E, 1400m a.s.l.], 1 ♂, 22.v.2014.

**Distribution.** Europe: Poland. First record from Switzerland.

**Biology.** Host plant unknown.

### *Liriomyza europaea* Zlobin, 2003

**Material examined.** **VS**: Jeizinen, 2000m a.s.l., [46°20'N, 7°44'E], 1 ♂, 3.vii.2001.

**Distribution.** Europe: Czech Republic, Great Britain, Greece, Sweden (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plant unknown, the species belongs to the *L. flaveola* group, known as grass miners.

### *Liriomyza graminivora* Hering, 1949

**Material examined.** **VS**: Grône, Poutafontana, 500m a.s.l., [46°15'N, 7°27'E], 3 ♂♂, 18.v.1996, B. Merz & G. Bächli leg., 3 ♂♂, 1.vii.2001, 3 ♂♂, 1.vii.2001, B. Merz & G. Bächli leg.; Leuk [46°19'N, 7°38'E, 600m a.s.l., banana bait], 1 ♂, 23.viii.–2.ix.1977. **ZH**: Flaach [47°35'N, 8°37'E, 350m a.s.l.], 22 ♂♂, 30.vi.2000; Marthalen [47°38'N, 8°39'E, 390m a.s.l.], 3 ♂♂, 8.vi.2008.

**Distribution.** Europe: Czech Republic, Germany, Hungary, Lithuania, Romania, Russia, Slovakia, Spain; Asia: Uzbekistan (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plants *Arrhenatherum*, *Festuca*, *Hordeum*, *Poa*.

### *Liriomyza hampsteadensis* Spencer, 1971

**Material examined.** **AG**: Habsburg [47°28'N, 8°11'E, 490m a.s.l.], 1 ♂, 9.viii.2004; 1 ♂, 16.viii.2004, 1 ♂, 23.viii.2004; Sarmenstorf [47°19'N, 8°15'E, 580m a.s.l.], 1 ♂, 9.viii.2004, 1 ♂, 6.ix.2004, all B. Wermelinger leg. **GR**: Lenzerheide [46°43'N, 9°33'E, 1550m a.s.l.], 1 ♂, 8.viii.1998; Lüsai, 1800m a.s.l., [46°37'N, 10°22'E], 1 ♂, 24.vi.2017. **GR**: Rothenbrunnen [46°46'N, 9°26'E, 630m a.s.l.], 1 ♂, 8.viii.1996, B. Merz & G. Bächli leg. **SO**: Messen [47°06'N, 7°27'E, 510m a.s.l.], 1 ♂, 9.viii.2004; 1 ♂, 14.ix.2004, all B. Wermelinger leg. **ZH**: Embrach, Haumühle [47°31'N, 8°36'E, 400m a.s.l.], 1 ♂, 9.v.1998. **ZH**: Uitikon [47°22'N, 8°27'E, 540m a.s.l.], 1 ♂, 2001, 1 ♂, 2004; Rafz [47°19'N, 8°35'E, 410m a.s.l.], 1 ♂, 2004, all P. Duelli leg.

**Distribution.** Europe: Belgium, Czech Republic, Germany, Great Britain, Greece, Hungary, Italy, Lithuania; Africa: Egypt (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plant *Achillea millefolium*.

### *Liriomyza hieracivora* Spencer, 1971

**Material examined.** **TI**: Bolle, Magagadino [46°09'N, 8°52'E, 200m a.s.l.], 1 ♂, 2005, P. Duelli leg. **ZH**: Zürich [47°23'N, 8°33'E, 430m a.s.l.], 1 ♂, 24.vi.–5.viii.2006, Th. Sattler leg.

**Distribution.** Europe: Czech Republic, Denmark, Germany, Hungary, Lithuania, Poland, Sweden; Asia: Asian Russia – Yakutia, Turkey (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plants *Hieracium* spp.

### *Liriomyza infusata* Hering, 1926

**Material examined.** **GR**: Alp Flix, 1950m a.s.l., [46°32'N, 9°38'E], 1 ♂, 2.vi.2000, G. Bächli leg.; Mar-



morera, 1600m a.s.l., [46°31'N, 9°38'E, 1 ♂, 2.vi.2000; Nationalpark [46°40'N, 10°12'E, 2000m a.s.l.], 1 ♂, 2005, P. Duelli leg.; Sur, 1600m a.s.l., [46°31'N, 9°38'E], 3 ♂♂, 3.vi.2000; Tinizong, 1350m a.s.l., [46°35'N, 9°37'E], 1 ♂, 2.vi.2000. **VD:** Changins [46°24'N, 6°14'E, 430m a.s.l.], 1 ♂, 2004, P. Duelli leg. **VS:** Leuk [46°19'N, 7°38'E, 700m a.s.l., banana bait], 2 ♂♂, 23.viii.–2.ix.1977.

**Distribution.** Europe: Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Latvia, Lithuania, Norway, Poland, Portugal (Černý et al. 2018), Russia, Slovakia, Spain, Sweden, Ukraine; Asia: Asian Russia – West and East Siberia, Mongolia (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plant unknown, but this species is surely a grass miner.

#### *Liriomyza lituanica* Pakalniškis, 1992

**Material examined.** **GE:** Jussy, Prés de Villette, 475m a.s.l., [46°14'N, 6°16'E], 1 ♂, 8.viii.2000; Russin, Biolay, 360m a.s.l., [46°11'N, 6°01'E], 1 ♂, 9.viii.2000, all B. Merz & G. Bächli leg. **VD:** Cudrefin [46°57'N, 7°01'E, 430m a.s.l.], 1 ♂, 2001, P. Duelli leg.

**Distribution.** Europe: Czech Republic, Hungary, Italy, Latvia, Lithuania; Asia: North Korea (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plants *Peucedanum*, *Selinum*.

#### *Liriomyza muranica* Černý, 2012

**Material examined.** **VS:** Mund, Finnen [46°19'N, 7°54'E, 1400m a.s.l.], 6 ♂♂, 21.vi.2014; Visperterminen [46°15'N, 7°54'E, 1550m a.s.l.], 1 ♂, 21.vii.2004; Zenegen [46°16'N, 7°52'E, 1400m a.s.l.], 9 ♂♂, 22.vi.2014.

**Distribution.** Europe: Slovakia (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plant unknown.

#### *Liriomyza occipitalis* Hendel, 1931

**Material examined.** **GR:** Lüsai, 1800m a.s.l., [46°37'N, 10°22'E], 1 ♂, 24.vi.2017; Santa Maria, Müstair, 1850m a.s.l., [46°36'N, 10°25'E], 1 ♂, 23.vi.2017; Sur, 1550m a.s.l., [46°31'N, 9°38'E], 1 ♂, 3.vi.2000; Tinizong, 1350m a.s.l., [46°35'N, 9°37'E], 1 ♂, 3.vi.2000. **LU:** Luzern [47°01'N, 8°19'E, 440m a.s.l.], 1 ♂, 10.vi.2006.

**Distribution.** Europe: Czech Republic, Finland, France, Germany, Great Britain, Hungary, Poland, Russia, Slovakia (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plant *Equisetum arvense*.

#### *Liriomyza oldenbergi* Hering, 1933

**Material examined.** **TI:** Bolle di Magadino [46°09'N, 8°52'E, 200m a.s.l.], 8 ♂♂, 9.viii.1997. **VS:** Jeizinen [46°20'N, 7°44'E, 1500m a.s.l.], 22 ♂♂, 10.viii.2013; Pfynwald [46°38'N, 7°37'E, 600m a.s.l., banana bait], 2 ♂♂, 26.–28.vii.1993; Visperterminen, 1400m a.s.l., [46°15'N, 7°54'E, 1 ♂, 31.vii.1998, B. Merz & G. Bächli leg.

**Distribution.** Europe: Germany, Hungary, Lithuania (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plants *Peucedanum* spp.

#### *Liriomyza pascuum* (Meigen, 1838)

**Material examined.** **AG:** Würenlingen [47°32'N, 8°16'E, 420m a.s.l., banana bait], 1 ♂, 6.–11.vi.1973.

**Distribution.** Europe: Austria, Belgium, Bulgaria, Croatia, Czech Republic, France incl. Corsica, Germany, Great Britain, Latvia, Lithuania, Montenegro, Poland, Romania, Serbia, Spain; Asia: Turkey (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plants *Euphorbia* spp.

#### *Liriomyza phryne* Hendel, 1931

**Material examined.** **AG:** Würenlingen, Bärengraben [47°31'N, 8°15'E, 420m a.s.l.], 2 ♂♂, 13.v.1998, B. Merz & G. Bächli leg., 2 ♂♂, 27.vii.2001. **BE:** Ligerz [47°06'N, 7°08'E, 600m a.s.l.], 2 ♂♂, 29.v.2010. **BL:** Bubendorf [47°27'N, 7°44'E, 500m a.s.l.], 623.25/253.75, 1 ♂, 6.–13.vii.2000, M. Wolf leg. **GE:** Bernex, Chante-Merle, 420m a.s.l., [46°11'N, 6°03'E], 1 ♂, 7.viii.2000, B. Merz & G. Bächli leg. **LU:** Dierikon [47°06'N, 8°22'E, 550m a.s.l.], 1 ♂, 2000, 1 ♂, 2001, 1 ♂, 2003; Ruswil [47°05'N, 8°08'E, 820m a.s.l.], 1 ♂, 2000, 1 ♂, 2004, 1 ♂, 2005, all P. Duelli leg. **UR:** Seelisberg [47°16'N, 8°33'E, 810m a.s.l.], 1 ♂, 4.–7.viii.1973. **ZG:** Steinhausen [47°12'N, 8°29'E, 500m a.s.l.], 1 ♂, 2005, 2 ♂♂, 2006, all P. Duelli leg. **ZH:** Höggerberg [47°25'N, 8°30'E, 520m a.s.l., banana bait], 1 ♂, 29.vi.–3.vii.1999; Marthalen [47°38'N, 8°39'E, 390m a.s.l.], 2 ♂♂, 8.vi.2008.

**Distribution.** Europe: Andorra, Austria, Belarus, Belgium, Czech Republic, Estonia, Latvia, Lithuania, France, Germany, Great Britain, Greece, Italy, Poland, Norway, Russia, Slovakia, Spain, Sweden (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plants *Agropyron*, *Arrhenatarum*, *Dactylis*, *Holcus*, *Lolium*.

#### *Liriomyza pisivora* Hering, 1954

**Material examined.** **VS:** Pfynwald [46°38'N, 7°37'E, 600m a.s.l.], 1 ♂, 19.v.1996, B. Merz & G. Bächli leg.



**Distribution.** Europe: Czech Republic, France incl. Corsica, Germany, Great Britain, Hungary, Lithuania, Poland, Russia; Asia: Asian Russia – Yakutia (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plants *Lathyrus*, *Pisum*, *Vicia*.

***Liriomyza pseudopygmina* (Hering, 1933)**

**Material examined.** VS: Pfynwald [46°38'N, 7°37'E, 600m a.s.l.], 4 ♂♂, 19.v.1996, B. Merz & G. Bächli leg.

**Distribution.** Europe: Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Lithuania, Spain; Asia: Japan (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plants *Raphanus*, *Sinapis*, *Sisymbrium*.

***Liriomyza solivaga* Spencer, 1971**

**Material examined.** AG: Würenlingen [47°32'N, 8°16'E, 420m a.s.l.], 1 ♀, 31.viii.1999. GR: Nationalpark [46°40'N, 10°12'E, 2000m a.s.l.], 4 ♂♂, 2004, 10 ♂♂, 2005, all P. Duelli leg. UR: Furkapass, ALPFOR Area, [46°35'N, 8°25'E, 2500m a.s.l.], 1 ♂, 24.vii.2012. VS: Jeizinen, 1500–2000m a.s.l., [46°20'N, 7°44'E], 2 ♂♂, 3.vii.2001.

**Distribution.** Europe: France, Great Britain, Spain (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plant unknown.

***Liriomyza sonchi* Hendel, 1931**

**Material examined.** BL: Pratteln [47°31'N, 7°42'E, 285m a.s.l.], 4 ♂♂, 2004, P. Duelli leg. VD: Changins [46°24'N, 6°14'E, 430m a.s.l.], 1 ♂, 2000, 2 ♂♂, 2005, all P. Duelli leg.

**Distribution.** Europe: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, Ireland, Italy, Lithuania, Netherlands, Norway, Poland, Russia, Slovakia, Spain, Sweden; Africa: Morocco; Asia: China, India, Iran, Japan (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plants *Arnoseris*, *Cichorium*, *Conyza*, *Euphorbia*, *Erigeron*, *Eryngium*, *Lactuca*, *Lapsana*, *Lepidium*, *Mycelis*, *Picris*, *Prenanthes*, *Reichardia*, *Sonchus*.

***Liriomyza soror* Hendel, 1931**

**Material examined.** AG: Habsburg [47°28'N, 8°11'E, 490m a.s.l.], 1 ♂, 30.viii.2004, B. Wermelinger leg. BL: Pratteln [47°31'N, 7°42'E, 285m a.s.l.], 2 ♂♂, 2000, 7

♂♂, 2004, P. Duelli leg. GE: Lullier [46°14'N, 6°15'E, 480m a.s.l., light trap], 1 ♂, viii.1992, H. Hächler leg. VS: Jeizinen, 2000m a.s.l., [46°20'N, 7°44'E], 1 ♂, 3.vii.2001, 1 ♂, 26.vi.2004.

**Distribution.** Europe: Austria, Belgium, Bulgaria, Czech Republic, France, Germany, Great Britain, Greece, Hungary, Lithuania, Poland, Russia, Slovakia, Sweden (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plants *Carduus*, *Cirsium*.

***Liriomyza taurica* Zlobin, 2003**

**Material examined.** UR: Seelisberg [46°58'N, 8°35'E, 810m a.s.l., banana bait], 3 ♂♂, 4.–7.viii.1973. VS: Jeizinen [46°20'N, 7°44'E, 1500m a.s.l.], 1 ♂, 26.vi.1999. ZH: Dietikon [47°24'N, 8°24'E, 390m a.s.l., banana bait], 1 ♂, 8.–16.vi.1984.

**Distribution.** Europe: Andorra, Czech Republic, Germany, Greece, Ukraine (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plant unknown, the species belongs to the *L. flaveola* group, known as grass miners.

***Liriomyza valerianae* Hendel, 1932**

**Material examined.** VD: La Dôle, 1500m a.s.l., [46°26'N, 6°06'E], 1 ♂, 26.vii.2004.

**Distribution.** Europe: Denmark, Estonia, Finland, France, Germany, Great Britain, Lithuania, Netherlands, Norway, Poland, Sweden. (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plants *Centranthus*, *Eupatorium*, *Valeriana*, *Valerianella*.

***Liriomyza wachtlii* Hendel, 1920**

**Material examined.** GR: Celerina [46°31'N, 9°52'E, 1890m a.s.l.], 1 ♂, 2005, P. Duelli leg.

**Distribution.** North America: Canada; Europe: Austria, Czech Republic, Finland, Germany, Montenegro, Russia, Sweden; Asia: Asian Russia – Yakutia (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plants *Veratrum album*, *V. lobelianum*, *V. nigrum*.

***Metopomyza xanthaspioides* (Frey, 1946)**

**Material examined.** GR: Marmorera, 1600m a.s.l., [46°31'N, 9°38'E], 2 ♂♂, 2.vi.2000.



**Distribution.** Europe: Czech Republic, Estonia, Finland, France, Germany, Hungary, Lithuania, Norway, Poland, Russia, Slovakia, Sweden; Asia: Asian Russia – East Siberia (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plant unknown.

*Napomyza inquilina* (Kock, 1966)

**Material examined.** VS, Leuk-Rotafen, [46°19'N, 7°41'E, 850m a.s.l.], 1 ♂, 16.v.1996, B. Merz & G. Bächli leg.

**Distribution.** Europe: Germany; Asia: Asian Russia – East Siberia (as *N. hirtella* Zlobin, 1994). First record from Switzerland.

**Biology.** Host plant *Linaria vulgaris*.

*Nemorimyza posticata* (Meigen, 1830)

**Material examined.** GE: Jussy, Prés de Villette, 475m a.s.l., [46°14'N, 6°16'E, 1 ♂, 8.viii.2000, B. Merz & G. Bächli leg. GL: Richisau [47°01'N, 8°54'E, 1100m a.s.l.], 1 ♂, 7.–11.viii.1995.

**Distribution.** North America: Canada, United States; Central America: Costa Rica; Europe: Austria, Belarus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Hungary, Ireland, Italy, Lithuania, Poland, Netherlands, Norway, Spain, Sweden; Asia: China, Japan (Papp and Černý 2016). First record from Switzerland.

**Biology.** Host plants *Aster*, *Baccharis*, *Bupthalmum*, *Erechtites*, *Solidago*.

*Phytobia cambii* (Hendel, 1931)

**Material examined.** VS: Baltschieder [46°18'N, 7°52'E, 650m a.s.l.], 1 ♂, 17.vi.1996, B. Merz & G. Bächli leg.

**Distribution.** Europe: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, Ireland, Latvia, Lithuania, Netherlands, Poland, Portugal (Černý et al. 2018), Romania, Russia, Slovakia, Sweden; Asia: Asian Russia – East Siberia, Japan (Papp and Černý 2016). First record from Switzerland.

**Biology.** Host plants *Alnus*, *Betula*, *Populus*, *Salix*.

*Phytomyza abdominalis* Zetterstedt, 1848

**Material examined.** NE: Rochefort [46°59'N, 6°49'E, 800m a.s.l., banana bait], 1 ♂, 5.–8.vii.1982. TI: San Giorgio [45°54'N, 8°57'E, 1100m a.s.l.], 1

♂, 18.vi.1995, B. Merz & G. Bächli leg. VS: Burchen [46°17'N, 7°49'E, 1600m a.s.l., banana bait], 1 ♂, 17.–19.viii.1993, 1500–1650m a.s.l., 1 ♂, 2.vii.2001; Leuk [46°19'N, 7°38'E, 600m a.s.l., banana bait], 3 ♂♂, 23.viii.–2.ix.1977.

**Distribution.** Europe: Austria, Czech Republic, Denmark, Finland, France, Germany, Italy, Lithuania, Norway, Poland, Sweden. First record from Switzerland.

**Biology.** Host plant *Hepatica nobilis*.

*Phytomyza angelicastris* Hering, 1932

**Material examined.** GR: Landquart [46°58'N, 9°36'E, 580m a.s.l., banana bait], 1 ♂, 9.–12.viii.1974; Santa Maria, Müstair, 1850m a.s.l., [46°36'N, 10°25'E], 1 ♂ 1 ♀, 23.vi.2017. UR: Furkapass, ALPFOR area, [46°35'N, 8°25'E, 2500m a.s.l.], 1 ♂, 23.vii.2012.

**Distribution.** Europe: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Greece, Ireland, Lithuania, Norway, Poland, Slovakia, Sweden (Černý 2011). First record from Switzerland.

**Biology.** Host plants *Angelica*, *Aegopodium*.

*Phytomyza angelicivora* Hering, 1924

**Material examined.** VS: Jeizinen, 2000m a.s.l., [46°20'N, 7°44'E], 1 ♂, 2.vii.2001; Visperterminen, 1300–2300m a.s.l., [46°15'N, 7°54'E], 4 ♂♂, 30.vii.1998, B. Merz & G. Bächli leg.

**Distribution.** Europe: Czech Republic, Germany, Russia (Černý and Vlk 2005). First record from Switzerland.

**Biology.** Host plant *Angelica palustris*.

*Phytomyza arnicicola* Lundquist, 1949

**Material examined.** GR: Nationalpark [46°40'N, 10°12'E, 2000m a.s.l.], 1 ♂, 2005, P. Duelli leg.

**Distribution.** North America: United States incl. Alaska; Europe: Czech Republic, Sweden; Asia: Asian Russia – Yakutia (Nartshuk and Bagachanova 2010). First record from Switzerland.

**Biology.** Host plant *Arnica alpina*.

*Phytomyza bellidina* Hendel, 1934

**Material examined.** GR: Sur, 1600m a.s.l., [46°31'N, 9°38'E], 2 ♂♂, 3.vi.2000; Tschier, 1700m a.s.l., [46°38'N, 10°20'E], 9 ♂♂, 27.vi.2015.



**Distribution.** Europe: France, Italy, Portugal, Republic of Malta, Spain, former Yugoslavia. First record from Switzerland.

**Biology.** Host plants *Bellis perennis*, *B. sylvestris*.

***Phytomyza carlestolrai* Černý, 2007**

**Material examined.** GR: Tschier, 1700m a.s.l., [46°38'N, 10°20'E], 1 ♂, 27.vi.2015.

**Distribution.** Europe: Andorra, France (Černý 2009). First record from Switzerland.

**Biology.** Host plant unknown.

***Phytomyza cirsii* Hendel, 1923**

**Material examined.** TI: Acquacalda [46°33'N, 8°49'E, 1750m a.s.l.], 1 ♂, 22.–26.vi.2001; Robiei [46°27'N, 8°31'E, 1900m a.s.l.], 1 ♂, 4.–5.vii.2008. VS: Baltschieder [46°18'N, 7°52'E, 650m a.s.l.], 1 ♂, 17.vi.1996, B. Merz & G. Bächli leg.

**Distribution.** Europe: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Greece, Hungary, Ireland, Lithuania, Netherlands, Poland, Slovakia, Spain, Sweden; Asia: Turkey (Černý 2009, 2011). First record from Switzerland.

**Biology.** Host plants *Cirsium*, *Cynara*, *Serratula*, *Scolymus*.

***Phytomyza coniopais* Hering, 1931**

**Material examined.** GR: Tschlin, 1500m a.s.l., [46°52'N, 10°26'E], 1 ♂, 25.vi.2016.

**Distribution.** Europe: Austria (Franz 1989), Germany, Poland. First record from Switzerland.

**Biology.** Host plant *Conium maculatum*.

***Phytomyza erigerophila* Hering, 1927**

**Material examined.** GR: Ftan Clünas [46°48'N, 10°15'E, 2000m a.s.l.], 1 ♂, 5.viii.1996, B. Merz & G. Bächli leg.

**Distribution.** North America: Canada and United States; Europe: Bulgaria, Czech Republic, Denmark, Finland, France incl. Corsica, Germany, Great Britain, Lithuania, Netherlands, Norway, Poland; Asia: Japan. First record from Switzerland.

**Biology.** Host plants *Aster*, *Conyza*, *Erigeron*.

***Phytomyza farfarae* Hendel, 1935**

**Material examined.** GR: Santa Maria, Müstair, Craistas [46°36'N, 10°25'E, 1850m a.s.l.], 1 ♂, 30.vi.2013; Tschier, 1700m a.s.l., [46°38'N, 10°20'E], 1 ♂, 27.vi.2015.

**Distribution.** Europe: Austria, Bulgaria, Czech Republic, Germany, Italy, Montenegro, Poland, Romania, Slovakia. First record from Switzerland.

**Biology.** Host plants *Tussilago*, *Petasites*.

***Phytomyza ferina* Spencer, 1971**

**Material examined.** GR: Nationalpark [46°40'N, 10°12'E, 2000m a.s.l.], 3 ♂♂, 2000, P. Duelli leg. UR: Furkapass, ALPFOR Area, [46°35'N, 8°25'E, 2500m a.s.l.], 1 ♂, 24.vii.2012. VS: Morgins, Portes du Soleil [46°12'N, 6°48'E, 1900m a.s.l.], 1 ♂, 27.vii.2004.

**Distribution.** Europe: Great Britain, Poland. First record from Switzerland.

**Biology.** Host plant unknown.

***Phytomyza flavofemorata* Strobl, 1893**

**Material examined.** BS: Basel, Zoologischer Garden, Sektor E, E2, [47°34'N, 7°35'E, 280m a.s.l.], 1 ♂, 1.–15. iv.2005, D. Burckhardt leg. GR: Celerina [46°31'N, 9°52'E, 1890m a.s.l.], 4 ♂♂, 2000, 4 ♂♂, 2001, all P. Duelli leg.; Dischmatal [46°45'N, 9°54'E, 1600m a.s.l.], Net., 3 ♂♂, 16.–31.vii.1990, 1 ♂, 16.–31.vii.1991, 2 ♂♂, 1.–20.viii.1991, all P. Brodmann leg.; Lantsch [46°41'N, 9°34'E, 1460m a.s.l.], 1 ♂, 2000, P. Duelli leg.; Tschlin, 1600m a.s.l., [46°52'N, 10°26'E], 1 ♂, 24.vi.2016. VS: Jeizinen [46°20'N, 7°44'E, 1500m a.s.l.], 1 ♂, 26.vi.1999, 1500–2000m a.s.l., 2 ♂♂, 3.vii.2001; Leuk [46°19'N, 7°38'E, 700m a.s.l., banana bait], 3 ♂♂, 27.–29.vii.1993; Visp [46°18'N, 7°53'E, 650m a.s.l., banana bait], 1 ♂, 9.–11.viii.1993.

**Distribution.** Europe: Austria, Belarus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Latvia, Lithuania, Netherlands, Norway, Poland, Russia, Slovakia, Sweden, former Yugoslavia. First record from Switzerland.

**Biology.** Host plants *Melampyrum arvense*, *M. pratense*.

***Phytomyza hendeli* Hering, 1923**

**Material examined.** AG: Würenlingen [47°32'N, 8°16'E, 420m a.s.l., banana bait], 1 ♂, 6.–11.vi.1973, G. Bächli leg. GR: Nationalpark [46°40'N, 10°12'E, 2000m a.s.l.], 1 ♂, 2001, 1 ♂, 2005, P. Duelli leg. VS: Branson, Follatterre [46°08'N, 7°05'E, 500m a.s.l.], 1 ♂, 29.vii.2004; Visperterminen [46°15'N, 7°54'E, 1550m a.s.l.], 2 ♂♂, 21.vii.2004.



**Distribution.** Europe: Croatia, Czech Republic, Denmark, Finland, Germany, Great Britain, Greece, Latvia, Lithuania, Netherlands, Norway, Poland, Slovakia, Sweden; Asia: India (Černý 2011, Černý *et al.* 2006, Karpa 2008). First record from Switzerland.

**Biology.** Host plant *Anemone nemorosa*.

***Phytomyza krygeri* Hering, 1949**

**Material examined.** BE: Ligerz [47°06'N, 07°08'E, 600m a.s.l.], 3 ♂♂, 29.v.2010.

**Distribution.** Europe: Czech Republic, Denmark, Finland, Germany, Great Britain, Netherlands, Norway, Poland, Sweden (Zlobin 2005). First record from Switzerland.

**Biology.** Host plant *Aquilegia vulgaris*.

***Phytomyza leucanthemi* Hering, 1935**

**Material examined.** JU: Delémont [47°22'N, 07°20'E, 500m a.s.l., banana bait], 1 ♂, 2.–6.viii.1974.

**Distribution.** Europe: Czech Republic, Denmark, France, Germany, Great Britain, Ireland, Latvia, Lithuania, Norway, Poland, Slovenia, Sweden. First record from Switzerland.

**Biology.** Host plant *Chrysanthemum leucanthemum*.

***Phytomyza melana* Hendel, 1920**

**Material examined.** GR: Ftan, Clünas [46°48'N, 10°15'E, 2000m a.s.l.], 1 ♂, 5.viii.1996, B. Merz & G. Bächli leg. TI: Acquacalda [46°33'N, 8°49'E, 1750m a.s.l.], 1 ♂, 22.–24.vi.2001.

**Distribution.** Europe: Austria, Germany, Great Britain, Poland, Norway (Andersen 2013). First record from Switzerland.

**Biology.** Host plants *Pimpinella major*, *P. saxifraga*.

***Phytomyza monticola* Černý, 2007**

**Material examined.** GR: Dischmatal [46°45'N, 09°54'E, 1600m a.s.l.], 1 ♂, 16.–31.vii.1990, P. Brodmann leg.

**Distribution.** Europe: Andorra. First record from Switzerland.

**Biology.** Host plant unknown.

***Phytomyza mutellinae* Beiger, 1961**

**Material examined.** GR: Marmorera, 1600m a.s.l., [46°31'N, 09°38'E], 1 ♂, 2.vi.2000.

**Distribution.** Europe: Czech Republic, Poland, Slovakia (Černý 2013). First record from Switzerland.

**Biology.** Host plant unknown.

***Phytomyza mylini* Hering, 1954**

**Material examined.** VS: Visp [46°18'N, 07°53'E, 670m a.s.l.], 1 ♂, 2000, P. Duelli leg.

**Distribution.** Europe: Czech Republic, Finland, France, Germany, Latvia, Lithuania, Poland (Kahanpää 2014, Karpa 2008, Withers 2014). First record from Switzerland.

**Biology.** Host plants *Carum*, *Cicuta*, *Daucus*, *Ligusticum*, *Selinum*, *Seseli*, *Silaum*.

***Phytomyza nigrifemur* Hering, 1934**

**Material examined.** TI: Acquacalda [46°33'N, 8°49'E, 1750m a.s.l.], 1 ♂, 22.–24.vi.2001. VS: Jeizinen, 2000m a.s.l., [46°20'N, 7°44'E], 2 ♂♂, 3.vii.2001; Leuk [46°19'N, 7°38'E, 700m a.s.l., banana bait], 1 ♂, 27.–29.vii.1993.

**Distribution.** Europe: Austria, Belarus, Bulgaria, Czech Republic, Estonia, Finland, France, Germany, Great Britain, Latvia, Lithuania, Norway, Poland, Russia, Slovakia, Sweden (Andersen 2013, Černý 2013). First record from Switzerland.

**Biology.** Host plant *Melampyrum nemorosum*.

***Phytomyza paraciliata* (Godfray, 1985)**

**Material examined.** AG: Rottenschwil [47°19'N, 8°22'E, 390m a.s.l.], 1 ♂, 14.vi.2008. VS: Leuk [46°19'N, 7°38'E, 600m a.s.l., banana bait], 3 ♂♂, 23.viii.–2.ix.1977; Oberwald [46°31'N, 8°20'E, 1820m a.s.l., banana bait], 3 ♂♂, 13.–15.viii.1975; Riederalp [46°23'N, 8°02'E, 2050m a.s.l., banana bait], 9 ♂♂, 31.vii.–8.viii.1976.

**Distribution.** Europe: Great Britain, Spain. First record from Switzerland.

**Biology.** Host plant *Leucanthemum vulgare*.

***Phytomyza picridoecis* Hering, 1957**

**Material examined.** VS: Mund, Finnen [46°19'N, 7°54'E, 1400m a.s.l.], 1 ♂, 21.vi.2014.

**Distribution.** Europe: Germany. First record from Switzerland.

**Biology.** Host plant unknown.



***Phytomyza pimpinellae* Hendel, 1924**

**Material examined.** GR: Tschier, 1700m a.s.l., [46°38'N, 10°20'E], 1 ♂, 27.vi.2015. SZ: Biberbrugg [47°09'N, 8°43'E, 860m a.s.l.], 1 ♂, 25.vi.2011.

**Distribution.** Europe: Austria, Belarus, Bosna and Herzegovina, Czech Republic, Finland Germany, Great Britain, Hungary, Italy Latvia, Lithuania, Netherlands, Norway, Poland, Slovakia, Sweden (Černý 2013, Černý and Vála 2005, Kahanpää 2014). First record from Switzerland.

**Biology.** Host plants *Pimpinella major*, *P. saxifraga*.

***Phytomyza senecionis* Kaltenbach, 1869**

**Material examined.** NE: Rochefort [46°59'N, 6°49'E, 800m a.s.l., banana bait], 2 ♂♂, 5.–8.vii.1982.

**Distribution.** Europe: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Germany, Italy, Netherlands, Poland, Slovakia (Černý 2006). First record from Switzerland.

**Biology.** Host plants *Senecio* spp.

***Phytomyza sitchensis* Griffiths, 1973**

**Material examined.** GR: Marmorera, 1600m a.s.l., [46°31'N, 9°38'E], 1 ♂, 2.vi.2000. SZ: Alpthal [47°04'N, 8°43'E, 1150m a.s.l.], 1 ♂, 2004, P. Duelli leg. UR: Furkapass ALPFOR Area, [46°35'N, 8°25'E, 2500m a.s.l.], 1 ♂, 23.vii.2012, 1 ♂, 25.vii.2012.

**Distribution.** North America: Alaska; Europe: Denmark, Germany, Great Britain (Petersen and von Tschirnhaus 2001). First record from Switzerland.

**Biology.** Host plant *Conioselinum* sp.

***Pseudonapomyza moraviae* Černý, 1992**

**Material examined.** VS: Leuk-Platten [46°19'N, 7°42'E, 600m a.s.l.], 1 ♂, 22.vii.2004.

**Distribution.** Europe: Czech Republic, Hungary, Lithuania, Poland, Russia, Slovakia (Papp and Černý 2017). First record from Switzerland.

**Biology.** Host plant unknown.

## Discussion

A total of 108 species of the family Agromyzidae are recorded as new for the fauna of Switzerland. These species were collected randomly and extensively at localities in 19 cantons. Five species are new for Central Europe, namely *Liriomyza solivaga*, *Ophiomyia vanyushai*, *Phy-*

*tomyza bellidina*, *P. carlestolrai* and *P. monticola*. Additional species rarely recorded from Central Europe are *Cerodontha (Cerodontha) alpestris*, *C. (C.) coxalis*, *C. (Icteromyza) rozkosnyi*, *C. (Poemyza) morula*, *Chromatomyia glacialis*, *Ch. spenceriana*, *Liriomyza aculeolata*, *L. dendranthema*, *L. europaea*, *L. lituanica*, *L. muranica*, *Melanagromyza arnicarum*, *M. eriolepidis*, *M. nibletti*, *Napomyza inquilina*, *Ophiomyia mohelensis*, *Phytomyza arnicicola*, *P. ferina*, *P. picridocecis* and *P. sitchensis*. Four species recently described from Hungary, are also new for the fauna of Switzerland namely *Agromyza longiphallus*, *A. seticercus*, *Cerodontha (Butomomyza) falcata*, *Ophiomyia hungarica* and *O. pannonica*. Our records increase the number of Agromyzidae of Switzerland to 395 species. The potential number of Swiss Agromyzidae species is probably much higher, expected number agromyzid in Switzerland is probably 500 species. Such a conclusion seems to be confirmed by a comparison of species richness in neighbouring countries, 389 species known from Austria (Černý 2013, Černý and Merz 2006, Franz 1989, Griffiths 1980, Lonsdale 2017, Martinez 2013), 481 species from the 567 species from Germany (Barták 1998, Martinez 2013, von Tschirnhaus 1999), 385 species from France (Černý 2005b, 2009, 2013, Černý and Merz 2006, 2007, Martinez 2013, Withers 2014), 298 species from Italy (Bella et al. 2007, Černý 2006, 2013, Martinez 2013, Süss 1999, 2001, 2002, 2003, Süss and Moreschi 2005) and hitherto any species recorded from Liechtenstein.

Our investigation of a previously unstudied collection indicates that such collections contain many new records for Switzerland. They also contain many additional localities. Knowledge of the Agromyzidae is thus improved. We are aware of other such collections which are awaiting exploration. We suggest that more specialists investigate agromyzids, not only to improve faunal details, but also to clear up the biological background of the species discovered.

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## APPENDIX 1

### Updated checklist of the Agromyzidae of Switzerland

Each species is followed by at least one reference about its occurrence in Switzerland. The following abbreviations are used: N = New record from Switzerland presented in this paper; R1 = Černý 2005a; R2 = Černý 2009; R3 = Černý 2013; R4 = Černý and Merz 2005; R5 = Černý and Merz 2006; R6 = Černý and Merz 2007; R7 = Černý and Merz 2012; R8 = Eder and Baur 2003; R9 = Martinez 1998; R10 = Martinez 2013; R11 = Nartshuk and von Tschirnhaus 2017; R12 = Papp 1984; R13 = Spencer 1964; R14 = Spencer 1966; R15 = Spencer 1990; R16 = Spencer 1992.

#### Agromyzidae Fallén, 1810

##### Subfamily Agromyzinae

##### *Agromyza* Fallén, 1810

- *abiens* Zetterstedt, 1848 – R1, R9, R10
- *albipennis* Meigen, 1830 – R1, R9, R10
- *albitarsis* Meigen, 1830 – N
- *alnbetulae* Hendel, 1931 – R9, R10, R12
- *ambigua* Fallén, 1823 – R9, R10
- *anderssoni* Spencer, 1976 – N
- *anthracina* Meigen, 1830 – R2, R9, R10
- *audcenti* Gibbs, 2004 – R6
- *bicaudata* (Hendel, 1920) – R1
- *bromi* Spencer, 1966 – R1, R9, R10
- *cinerascens* Macquart, 1835 – R1, R4
- *conjuncta* Spencer, 1966 – N
- *drepanura* (Mamonov, 1929) – N
- *erythrocephala* Hendel, 1920 – R3
- *filipendulae* Spencer, 1976 – N
- *flaviceps* Fallén, 1923 – R3
- *frontella* (Rondani, 1875) – R1
- *hendeli* Griffiths, 1963 – R1
- *idaeiana* Hardy, 1853 – R1, R4
- *longiphallus* L. Papp in Papp & Černý 2015 – N
- *lucida* Hendel, 1920 – R1
- *luteitarsis* (Rondani, 1875) – R2
- *lyneborgi* Spencer, 1976 – R11
- *marionae* Griffiths, 1963 – R1
- *mobilis* Meigen, 1830 – R1, R4, R9, R10
- *myosotidis* Kaltenbach, 1864 – R9, R10
- *nana* Meigen, 1830 – R1, R4, R9, R10
- *nigrella* (Rondani, 1875) – R9, R10
- *nigrescens* Hendel, 1920 – R9, R10
- *nigripes* Meigen, 1830 – R1, R4, R9, R10

- *nigrociliata* Hendel, 1931 – R9, R10
- *orobi* Hendel, 1920 – R9, R10
- *polygoni* Hering, 1941 – R1, R4, R9, R10
- *prespana* Spencer, 1957 – R1
- *pseudoreptans* Nowakowski, 1967 – R1
- *pseudorufipes* Nowakowski, 1964 – R1
- *reptans* Fallén, 1823 – R4, R9, R10
- *rondensis* Strobl, 1900 – R1
- *seticercus* L. Papp in Papp & Černý 2015 – N
- *spenceri* Griffiths, 1963 – N
- *sulfuriceps* Strobl, 1898 – R1, R9, R10
- *viciae* Kaltenbach, 1872 – R1 (as *A. quadriseta* Zlobin, 2001), R9, R10
- *vicifoliae* Hering, 1932 – R9, R10
- *woerzi* Groschke & Hering, 1957 – N

##### *Hexomyza* Enderlein, 1936

- *cecidogena* (Hering, 1927) – N
- *simplicoides* (Hendel, 1920) – R10, R14

##### *Melanagromyza* Hendel, 1920

- *aenea* (Meigen, 1830) – R10, R14
- *aeneoventris* (Fallén, 1823) – R4, R9, R10
- *albocilia* Hendel, 1931 – R2
- *arnicarum* Hering, 1942 – N
- *astragali* Spencer, 1976 – R1
- *cunctans* (Meigen, 1830) – R1, R4, R9, R10
- *eriolepidis* Spencer, 1961 – N
- *eupatorii* Spencer, 1957 – N
- *lappae* (Loew, 1850) – R9, R10
- *nibletti* Spencer, 1957 – N
- *pubescens* Hendel, 1923 – N
- *sativae* Spencer, 1957 – N
- *tripolii* Spencer, 1957 – N
- *zlobini* Pakalniškis, 1996 – N

##### *Ophiomyia* Braschnikov, 1897

- *aeneonitens* (Strobl, 1893) – R1
- *alliariae* Hering, 1954 – N
- *beckeri* (Hendel, 1923) – R4
- *campanularum* Starý, 1930 – R1
- *cichorii* Hering, 1949 – R7
- *collini* Spencer, 1971 – R5
- *cunctata* (Hendel, 1920) – R1
- *curvipalpis* (Zetterstedt, 1848) – R1, R9, R10
- *eucodomus* Hering, 1960 – N
- *galii* Hering, 1937 – R1
- *heracleivora* Spencer, 1957 – R2
- *heringi* Starý, 1930 – R6
- *hungarica* Černý in Papp & Černý 2015 – NR
- *inaequabilis* (Hendel, 1931) – R1
- *labiatarum* Hering, 1937 – R2
- *longilingua* (Hendel, 1920) – R9, R10, R14
- *maura* (Meigen, 1838) – N
- *melandryi* de Meijere, 1924 – R6
- *mohelensis* Černý, 1994 – N
- *moravica* Černý, 1994 – R6
- *nasuta* (Melander, 1913) – R1, R4, R9, R10



- *orbiculata* (Hendel, 1931) – R1, R4, R9, R10, R13
- *pannonica* Černý in Papp & Černý 2015 – N
- *pinguis* (Fallén, 1820) – R1, R9, R10
- *pulicaria* (Meigen, 1830) – R4, R9, R10
- *rostrata* (Hendel, 1920) – N
- *submaura* Hering, 1926 – R1
- *vanyushai* Guglya, 2014 – N
- *vimmeri* Černý, 1994 – R1

### Subfamily Phytomyzinae

#### *Amauromyza* Hendel, 1931

##### subgenus *Amauromyza* Hendel, 1931

- *leonuri* Spencer, 1971 – R4

##### subgenus *Cephalomyza* Hendel, 1931

- *flavifrons* (Meigen, 1830) – R1
- *gyrans* (Fallén, 1823) – R6
- *karli* (Hendel, 1927) – N
- *labiatarum* (Hendel, 1920) – R4
- *luteiceps* (Hendel, 1920) – N
- *mihalyii* Spencer, 1971 – R1
- *monfalconensis* (Strobl, 1909) – R1, R9, R10, R16
- *verbasci* (Bouché, 1847) – R9, R10

#### *Aulagromyza* Enderlein, 1936

- *anteposita* (Strobl, 1898) – R9, R10, R16
- *buhri* (de Meijere, 1938) – R9, R10
- *discrepans* (van der Wulp, 1871) – R6
- *hendeliana* (Hering, 1926) – R9, R10, R16
- *luteoscutellata* (de Meijere, 1924) – R1
- *orphana* (Hendel, 1920) – R1
- *similis* (Brischke, 1880) – R1
- *trivittata* (Loew, 1873) – R1, R9, R10

#### *Calycomyza* Hendel, 1931

- *artemisiae* (Kaltenbach, 1856) – R9, R10
- *humeralis* (von Roser, 1840) – R1, R9, R10
- *solidaginis* (Kaltenbach, 1969) – R9, R10

#### *Cerodontha* Rondani, 1861

##### subgenus *Butomomyza* Nowakowski, 1967

- *angulata* (Loew, 1869) – R1
- *caricivora* (Groschke, 1954) – N
- *eucaricis* Nowakowski, 1967 – R9, R10
- *falcata* Černý in Papp & Černý, 2016 – N
- *mellita* Spencer, 1971 – N
- *pseuderrans* (Hendel, 1931) – N
- *rohdendorfi* Nowakowski, 1967 – R1
- *scirpi* (Karl, 1926) – R9, R10
- *staryi* (Starý, 1930) – R6

##### subgenus *Cerodontha* Rondani, 1861

- *affinis* (Fallén, 1823) – R1, R4, R9, R10
- *alpestris* Martinez, 1987 – N
- *coxalis* Martinez, 1987 – N
- *denticornis* (Panzer, 1806) – R1, R4, R9, R10
- *flavicornis* (Egger, 1862) – R9, R10, R12

- *fulvipes* (Meigen, 1830) – R1, R4, R9, R10
- *phragmitophila* Hering, 1935 – N
- *unguicornis* Hendel, 1932 – R1, R4

##### subgenus *Dizygomyza* Hendel, 1920

- *bimaculata* (Meigen, 1830) – R1, R4
- *brisiaca* Nowakowski, 1973 – N
- *caricicola* (Hering, 1926) – R4
- *chaixiana* (Hering, 1956) – N
- *crassiseta* (Strobl, 1900) – R1
- *fasciata* (Strobl, 1880) – R1
- *griffithsi* Nowakowski, 1967 – R1
- *hirtae* Nowakowski, 1967 – N
- *iraeos* (Robineau-Desvoidy, 1851) – R9, R10
- *luctuosa* (Meigen, 1830) – R1
- *luzulae* (Groschke & Hering, 1957) – R1
- *morosa* (Meigen, 1830) – R1, R9, R10
- *silvatica* (Groschke & Hering, 1957) – N
- *spinata* (Groschke, 1954) – R1
- *suturalis* (Hendel, 1931) – R2

##### subgenus *Icteromyza* Hendel, 1931

- *geniculata* (Fallén, 1823) – R4, R9, R10
- *rozkosnyi* Černý, 2007 – N

##### subgenus *Phytagromyza* Hendel, 1920

- *flavocingulata* (Strobl, 1909) – N

##### subgenus *Poemyza* Hendel, 1931

- *alpina* Nowakowski, 1967 – R1
- *atra* (Meigen, 1830) – R1, R9, R10
- *beigeriae* Nowakowski, 1973 – R1
- *calamagrostidis* Nowakowski, 1967 – R1
- *imbuta* (Meigen, 1838) – R9, R10
- *incisa* (Meigen, 1830) – R1
- *lateralis* (Macquart, 1835) – R1
- *lyneborgi* Spencer, 1972 – R1
- *morula* (Hendel, 1920) – N
- *muscina* (Meigen, 1830) – R9
- *phragmitidis* Nowakowski, 1967 – R6
- *pygmaea* (Meigen, 1830) – R1
- *pygmella* (Hendel, 1931) – N
- *spenceriae* Zlobin, 1993 – R1
- *superciliosa* (Zetterstedt, 1860) – R9, R10, R12
- *thunebergi* Nowakowski, 1967 – N
- *vladimiri* Černý in Černý & Merz, 2007 – R6

##### subgenus *Xenophytomyza* Frey, 1946

- *atronitens* (Hendel, 1920) – R1
- *biseta* (Hendel, 1920) – R1, R9, R10
- *venturii* Nowakowski, 1967 – R9, R10

#### *Chromatomyia* Hardy, 1849

- *aizoon* (Hering, 1932) – R9, R10
- *alpigenae* (Hendel, 1925) – R9, R10
- *beigeriae* Griffiths, 1980 – N
- *ciliata* (Hendel, 1935) – R9, R10, R16
- *fuscula* (Zetterstedt, 1838) – R1



- *gentianae* (Hendel, 1920) – R9, R10
- *gentianella* (Hendel, 1932) – R1, R9, R10, R12
- *glacialis* (Griffiths, 1964) – N
- *hoppiella* Spencer, 1990 – R1, R4, R9, R10, R15
- *horticola* (Goureau, 1851) – R1, R4, R9, R10
- *isicae* (Hering, 1962) – R1
- *milii* (Kaltenbach, 1864) – R1, R4, R9, R10
- *nigra* (Meigen, 1830) – R1, R9, R10
- *norwegica* (Rydén, 1957) – N
- *ochracea* (Hendel, 1920) – N
- *opacella* (Hendel, 1935) – R1
- *periclymeni* (Hendel, 1922) – R4, R9, R10
- *primulae* (Robineau-Desvoidy, 1851) – N
- *pseudomilii* Griffiths, 1980 – R1
- *ramosa* (Hendel, 1923) – R1, R4, R9, R10, R16
- *rhaetica* Griffiths, 1980 – N
- *saxifragae* (Hering, 1924) – R9, R10
- *soldanellae* (Starý, 1950) – R9, R10, R16
- *spenceriana* Griffiths, 1980 – N
- *styriaca* Griffiths, 1980 – N
- *succisae* (Hering, 1922) – N
- *syngenesiae* Hardy, 1849 – R9, R10
- *tschirnhausi* Griffiths, 1980 – N
- *vernalis* (Grischke & Hering, 1957) – R5

#### ***Galiomyza* Spencer, 1981**

- *galiivora* (Spencer, 1969) – R1
- *morio* (Brischke, 1880) – R1, R9, R10
- *violiphaga* (Hendel, 1932) – R9, R10

#### ***Gymnophytomyza* Hendel, 1936**

- *heteroneura* (Hendel, 1920) – R9, R10

#### ***Liriomyza* Mik, 1894**

- *aculeolata* Zlobin, 2003 – N
- *amoena* (Meigen, 1830) – N
- *approximata* (Hendel, 1920) – R1
- *artemisicola* de Meijere, 1924 – R4, R9, R10, R16
- *balcanica* (Strobl, 1898) – R4
- *bryoniae* (Kaltenbach, 1858) – R5
- *buhri* Hering, 1937 – N
- *centaureae* Hering, 1927 – N
- *cicerina* (Rondani, 1875) – R9, R10
- *congesta* (Becker, 1903) – R1, R4, R9, R10
- *demeijerei* Hering, 1930 – R6
- *dendranthema* Nowakowski, 1975 – N
- *dianthicola* (Venturi, 1949) – R5
- *dracunculi* Hering, 1932 – R4
- *erucifolii* de Meijere, 1944 – R1, R4
- *europaea* Zlobin, 2003 – N
- *flaveola* (Fallén, 1823) – R1, R4, R9, R10
- *globulariae* Hendel, 1931 – R9, R10, R12
- *graminivora* Hering 1949 – N
- *hampsteadensis* Spencer, 1971 – N
- *hieracii* (Kaltenbach, 1862) – R9, R10
- *hieracivora* Spencer, 1971 – N
- *huidobrensis* (Blanchard, 1926) – R9, R10
- *infusata* Hering, 1926 – N

- *intonsa* Spencer, 1976 – R3
- *lituanica* Pakalniškis, 1992 – N
- *lutea* (Meigen, 1830) – R1
- *murana* Černý, 2012 – N
- *nietzkei* Spencer, 1973 – R9, R10
- *obliqua* Hendel, 1931 – R1
- *occipitalis* Hendel, 1931 – N
- *oldenbergi* Hering, 1933 – N
- *orbona* (Meigen, 1830) – R4, R9, R10
- *pascuum* (Meigen, 1838) – N
- *pedestris* Hendel, 1931 – R6
- *phryne* Hendel, 1931 – N
- *pisivora* Hering, 1954 – N
- *polygalae* Hering, 1927 – R1, R9, R10, R12
- *pseudopygmina* (Hering, 1933) – N
- *ptarmicae* de Meijere, 1925 – R2
- *puella* (Meigen, 1830) – R6
- *pusilla* (Meigen, 1830) – R4 (as syn. *L. eupatorii* (Kaltenbach, 1873)), R9
- *pusio* (Meigen, 1830) – R7
- *richteri* Hering, 1927 – R9, R10
- *solivaga* Spencer, 1971 – N
- *sonchi* Hendel, 1931 – N
- *soror* Hendel, 1931 – N
- *strigata* (Meigen, 1830) – R4, R9, R10
- *taraxaci* Hering, 1927 – R1
- *taurica* Zlobin, 2003 – N
- *trifolii* (Burgess in Comstock, 1880) – R9, R10
- *urophorina* Mik, 1894 – R9, R10
- *valerianae* Hendel, 1932 – N
- *virgula* Frey, 1946 – R6
- *wachtlii* Hendel, 1920 – N
- *yasumatsui* Sasakawa, 1972 – R4

#### ***Metopomyza* Enderlein, 1936**

- *flavonotata* (Haliday, 1833) – R1
- *nigriorbita* (Hendel, 1931) – R1
- *scutellata* (Fallén, 1823) – R1
- *xanthaspioides* (Frey, 1946) – N
- *xanthaspis* (Loew, 1858) – R1, R9, R10

#### ***Napomyza* Westwood, 1840**

- *achilleanella* von Tschirnhaus, 1992 – R6
- *bellidis* Griffiths, 1967 – R1
- *carotae* Spencer, 1966 – R9, R10
- *cichorii* Spencer, 1966 – R1, R4, R9, R10
- *elegans* (Meigen, 1830) – R1
- *hirticornis* Hendel, 1932 – R9, R10
- *inquilina* (Kock, 1966) – N
- *lateralis* (Fallén, 1823) – R9, R10
- *maritima* von Tschirnhaus, 1981 – R1
- *merita* Zlobin, 1993 – R6
- *nigriceps* van der Wulp, 1871 – R1
- *scrophulariae* Spencer, 1966 – R6
- *tripolii* Spencer, 1966 – R1

#### ***Nemorimyza* Frey, 1946**

- *posticata* (Meigen, 1830) – N



***Phytobia* Lioy, 1864**

- *cambii* (Hendel, 1931) – N
- *mallochi* (Hendel, 1924) – R9, R10, R12

***Phytoliriomyza* Hendel, 1931**

- *arctica* (Lundbeck, 1901) – R1, R9, R10
- *melampyga* (Loew, 1869) – R1, R9, R10
- *perpusilla* (Meigen, 1830) – R1

***Phytomyza* Fallén, 1810**

- *abdita* Hering, 1927 – R9, R10, R12, R15
- *abdominalis* Zetterstedt, 1848 – N
- *adenostylis* Hering, 1926 – R9, R10, R16
- *adjuncta* Hering, 1928 – R9, R10
- *affinis* Fallén, 1823 – R1, R9, R10
- *albipennis* Fallén, 1823 – R1
- *alpestris* Hendel, 1920 – R9, R10, R12
- *alpina* Groschke & Hering, 1957 – R9, R10
- *angelicae* Kaltenbach, 1872 – R1, R9, R10, R16
- *angelicastris* Hering, 1932 – N
- *angelicivora* Hering, 1924 – N
- *aquilegiae* Hardy, 1849 – R9, R10
- *arnicae* Hering, 1925 – R9, R10, R16
- *arnicicola* Lunndquist, 1949 – N
- *artemisivora* Spencer, 1971 – R1, R9, R10, R16
- *aurei* Hering, 1931 – R9, R10
- *bellidina* Hendel, 1934 – N
- *bipunctata* Loew, 1858 – R9, R10
- *brischkei* Hendel, 1922 – R1, R9, R10
- *buhriella* Spencer, 1969 – R6
- *calthivora* Hendel, 1934 – R1
- *calthophila* Hering, 1931 – R1
- *campanulae* Hendel, 1920 – R4
- *carlestolrai* Černý, 2007 – N
- *chaerophylli* Kaltenbach, 1856 – R1, R9, R10
- *chaerophylliana* Hering, 1931 – R6
- *cirsii* Hendel, 1923 – N
- *clematidis* Kaltenbach, 1859 – R9, R10
- *coniopais* Hering, 1931 – N
- *continua* Hendel, 1920 – R9, R10
- *crassiseta* Zetterstedt, 1860 – R1
- *digitalis* Hering, 1925 – R9, R10
- *erigerophila* Hering, 1927 – N
- *eumorpha* Frey, 1946 – R1
- *evanescens* Hendel, 1920 – R1
- *fallaciosa* Brischke, 1880 – R1
- *farfarae* Hendel, 1935 – N
- *ferina* Spencer, 1971 – N
- *flavicornis* Fallén, 1823 – R1, R4
- *flavofemorata* Strobl, 1893 – N
- *glechomae* Kaltenbach, 1862 – R1, R9, R10
- *griffithsi* Spencer, 1963 – R6
- *gymnostoma* Loew, 1858 – R1, R4
- *hendeli* Hering, 1923 – N
- *heracleana* Hering, 1937 – R1
- *hirsuta* Spencer, 1976 – R1
- *homogyneae* Hering, 1927 – R1
- *hoppi* Hering, 1925 – R9, R10, R12

- *ilicis* Curtis, 1846 – R4, R9, R10
- *kaltenbachii* Hendel, 1922 – R9, R10, R12
- *krygeri* Hering, 1949 – N
- *kurilensis* Iwasaki 2000 – R2
- *kyffhusana* Hering, 1928 – R4,
- *latifolii* Groschke & Hering, 1957 – R9, R10
- *leucanthemi* Hering, 1935 – N
- *marginella* Fallén, 1823 – R9, R10, R12
- *medicaginis* Hering, 1925 – R7
- *melana* Hendel, 1920 – N
- *minuscule* Goureau, 1851 – R9, R10
- *monticola* Černý, 2007 – N
- *mutellinae* Beiger, 1961 – N
- *mylini* Hering, 1954 – N
- *narcissiflorae* Hering, 1928 – R9, R10, R12, R15
- *nigrifemur* Hering, 1934 – N
- *nigripennis* Fallén, 1823 – R1, R4, R9, R10
- *nigritula* Zetterstedt, 1838 – R9, R10
- *notata* Meigen, 1830 – R1, R9, R10
- *origani* Hering, 1931 – R1, R4
- *paraciliata* (Godfray, 1985) – N
- *pauliloewii* Hendel, 1920 – R1
- *penicilla* Hendel, 1935 – R9, R10
- *petoei* Hering, 1924 – R9, R10
- *picridoecis* Hering, 1957 – N
- *pimpinellae* Hendel, 1924 – N
- *plantaginis* Robineau-Desvoidy, 1851 – R1, R4, R9, R10
- *platonoffi* Spencer, 1976 – R2
- *platystoma* (Hendel, 1920) – R1
- *pubicornis* Hendel, 1920 – R1
- *pullula* Zetterstedt, 1848 – R1, R4
- *pulsatillae* Hering, 1924 – R12
- *ranunculi* (Schränk, 1803) – R1, R4, R9, R10
- *ranunculicola* Hering, 1949 – R1
- *ranunculivora* Hering, 1932 – R6
- *rapunculi* Hendel, 1927 – R1
- *rectae* Hendel, 1924 – R9, R10
- *rhabdophora* Griffiths, 1964 – R1
- *robustella* Hendel, 1936 – R6
- *rostrata* Hering, 1934 – R1
- *rufipes* Meigen, 1830 – R1, R9, R10
- *salviae* (Hering, 1924) – R6
- *sedi* Kaltenbach, 1869 – R1
- *sedicola* Hering, 1924 – R9, R10
- *senecionis* Kaltenbach, 1869 – N
- *sitchensis* Griffiths, 1973 – N
- *soenderupi* Hering, 1941 – R1
- *solidaginis* Hendel, 1920 – R9, R10
- *spondylii* Robineau-Desvoidy, 1851 – R4, R9, R10
- *tenella* Meigen, 1830 – R1, R4, R9, R10
- *tetrasticha* Hendel, 1927 – R6
- *thalictri* Escher-Kündig in de Rougemont, 1912 – R9, R10, R12, R15
- *thymi* Hering, 1928 – R9, R10, R12, R15
- *trollii* Hering, 1930 – R9, R10, R16
- *trolliivora* Hering, 1935 – R9, R10
- *varipes* Macquart, 1835 – R1



- *veronicicola* Hering, 1925 – R4
- *virgaureae* Hering, 1926 – R9, R10, R12
- *vitalbae* Kaltenbach, 1872 – R1, R4, R9, R10
- *wahlgreni* Rydén, 1944 – R1, R9, R10
- *zarzyckii* Nowakowski, 1975 – R2

***Pseudonapomyza* Hendel, 1920**

- *atra* (Meigen, 1830) – R1
- *balkanensis* Spencer, 1973 – R9, R10

- *errata* Zlobin, 1993 – R1, R4
- *eurasiatica* Zlobin, 2003 – R1, R4
- *europaea* Spencer, 1973 – R1, R9, R10, R12
- *moraviae* Černý, 1992 – N
- *strobliana* Spencer, 1973 – R1
- *vota* Spencer, 1973 – R1, R4

***Selachops* Wahlberg, 1844**

- *flavocinctus* Wahlberg, 1844 – R9, R10